PORSF
11.3.245.1V24

Report Date: January 31, 2001
Job Number: A10123BU
PO Number: None Provided
Project No: None Provided
Project Name: None Provided

Rod Hull
Portland Blast Media
7875 SW Alden St.
Portland, OR 97223

Analytical Narrative

The sample was received on 01/23/01 by Coffey Laboratories, Inc. (CLI) Sample Reception personnel under strict chain of custody protocol. The following information was provided at the time of sample reception:

Laboratory Sample ID	Field Identification	Matrix	Collection Date	Collection Time
A10123BU-1	Storm Drain	Storm Water	01/23/01	0900

The recommended holding time for each batch of analyses was in accordance with the data quality objectives as specified in the CLI Quality Assurance Plan unless otherwise noted.

Acceptable precision and accuracy were achieved for all analyses associated with this work order as demonstrated by the recoveries of the quality control samples analyzed concurrently with each batch.

The data submitted in this report is for the sole and exclusive use of the above-named client. All samples associated with the work order will be retained a maximum of 15 days from the report date or until the maximum holding time expires. All results pertain only to samples submitted.

Thank you for allowing Coffey Laboratories to be of service to you. If you have questions or need further assistance, please do not hesitate to call our Customer Services Department.

Sincerely,

John A. Guild

Technical Services

TS /atc

USEPA SF
1336394

Coffey Laboratories, Inc.
12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

SCHN00150741

Analytical Data

Portland Blast Media

Job Number: A10123BU

Lab Sample ID: A10123BU-1
Field ID: Storm Drain
Date/Time: 01/23/01 0900
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
pH	EPA 150.1	----	7.04	S.U.
Total Suspended Solids	EPA 160.2	1.	17.	mg/L
Total Oil & Grease	EPA 1664	3.	ND	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Portland Blast Media

Job Number: A10123BU

Lab Sample ID: A10123BU-1
Field ID: Storm Drain
Date/Time: 01/23/01 0900
Matrix: Storm Water

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Copper	EPA 220.1	0.03	0.05	mg/L
Lead	EPA 239.2	0.005	0.015	mg/L
Zinc	EPA 289.1	0.01	0.19	mg/L

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GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORM WATER DISCHARGE PERMIT

Department of Environmental Quality
811 Southwest Sixth Avenue, Portland, OR 97204
Telephone: (503) 229-5279
Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

ISSUED TO:

All Owners Or Operators Of Storm Water Point Source Discharges That Are Covered By This Permit

SOURCES COVERED BY THIS PERMIT

Facilities identified in 40 Code of Federal Regulation (CFR) §122.26(b)(14)(i -ix, xi) with storm water discharges. Construction activities, asphalt mix batch plants, concrete batch plants and Standard Industrial Classification code 14, *Mining and Quarrying of Nonmetallic Minerals, Except Fuels* are excluded from this permit. These activities are regulated under separate permits.

See Table 1: Sources Covered, pages 2-3, for more information on the CFR regulated industries covered by this permit.

COPY

Michael T. Llewelyn, Administrator
Water Quality Division

JULY 22, 1997
Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify, or operate storm water treatment and/or control facilities, and to discharge storm water to public waters in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

			Page
Schedule A	-	Storm Water Pollution Control Plan, Additional Requirements, Limitations, and Benchmarks	4-8
Schedule B	-	Monitoring and Reporting Requirements	9-10
Schedule C	-	Compliance Conditions and Schedules	11
Schedule D	-	Special Conditions	12
Schedule F	-	General Conditions	13

Unless authorized by another NPDES permit, all other direct and indirect discharges to public waters are prohibited.

TABLE 1: Sources Covered

Previous Permit Type	Sources Covered
1200-D	Facilities with the following primary Standard Industrial Classification codes: 21 Tobacco Products 22 Textile Mill Products 23 Apparel and Other Finished Products Made From Fabrics and Similar Material 27 Printing, Publishing and Allied Industries 4221 Farm Product Warehousing and Storage 4222 Refrigerated Warehousing and Storage 4225 General Warehousing and Storage Facilities with SIC codes 22, 23, 27, 4221, 4222, and 4225 are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.
1200-F	Facilities with primary Standard Industrial Classification code 20 Food and Kindred Products. Facilities with this SIC code are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.
1200-G	Landfills, land application sites and open dumps.
1200-H	Facilities with the following primary Standard Industrial Classification codes: 28 Chemicals and Allied Products (excluding 2874 Phosphate Fertilizer Manufacturing) 29 Petroleum Refining and Related Industries 30 Rubber and Miscellaneous Plastics Products 31 Leather and Leather Products 32 Stone, Clay, Glass, and Concrete Products 33 Primary Metal Industries and Steam Electric Power Generation including coal handling sites. Facilities with SIC codes 283, 285, 30, 31 (except 311), and 323 are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.
1200-L	Facilities with the following primary Standard Industrial Classification codes: 34 Fabricated Metal Products, Except Machinery and Transportation Equipment 35 Industrial and Commercial Machinery and Computer Equipment 36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment 37 Transportation Equipment 38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks 39 Miscellaneous Manufacturing Industries Facilities with SIC codes 34 (except 3441), 35, 36, 37 (except 373), 38, and 39 are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.

TABLE 1: Sources Covered (cont.)

Previous Permit Type	Sources Covered
1200-M	Facilities with the following primary Standard Industrial Classification codes: 10 Metal Mining 12 Coal Mining 13 Oil and Gas Extraction
1200-P	Facilities with primary Standard Industrial Classification code 26 Paper and Allied Products. Facilities with SIC codes 265 and 267 are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.
1200-R	Hazardous Waste Treatment, Storage and Disposal Facilities, and facilities with primary Standard Industrial Classification codes 5015 Motor Vehicle Parts, Used, and 5093 Scrap and Waste Materials.
1200-S	Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, recycling, and reclamation of municipal or domestic sewage (including land dedicated to the disposal of sewage sludge that are located within the confines of the facility) with the design flow capacity of 1.0 mgd or more, or required to have a pretreatment program under 40 CFR § 403.
1200-T	Facilities with the following primary Standard Industrial Classification codes that have vehicle maintenance shops (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport deicing operations: 40 Railroad Transportation 41 Local and Suburban Transit and Interurban Highway Passenger Transportation 42 Motor Freight Transportation and Warehousing (excluding 4221 Farm Product Warehousing and Storage, 4222 Refrigerated Warehousing and Storage, and 4225 General Warehousing and Storage) 43 United States Postal Service 44 Water Transportation 45 Transportation by Air 5171 Petroleum Bulk Stations and Terminals
1200-W	Facilities with the following primary Standard Industrial Classification codes: 24 Lumber and Wood Products, Except Furniture (excluding 2491 Wood Preserving and 2411 Logging) 25 Furniture and Fixtures Facilities with SIC codes 2434 and 25 are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.

SCHEDULE A
STORM WATER POLLUTION CONTROL PLAN

1. **Preparation and Implementation of the Storm Water Pollution Control Plan (SWPCP)**
   a) The SWPCP shall be prepared by a person knowledgeable in storm water management and familiar with the facility.
   b) The SWPCP shall be signed in accordance with 40 CFR §122.22. Updates and revisions to the SWPCP shall also be signed in this manner. The SWPCP shall be signed as follows:
      i) For a Corporation - By a principal executive officer of at least the level of vice president;
      ii) For a Partnership or Sole Proprietorship - By a general partner or the proprietor, respectively; or
      iii) For a Municipality, State, Federal, or other Public Facility - By either a principal executive officer or ranking elected official.
   c) The SWPCP shall be prepared and implemented according to the time frames set forth in Schedule C.
   d) The SWPCP shall be kept current and updated as necessary to reflect any changes in facility operation.
   e) The SWPCP and updates to the SWPCP shall be submitted to the Department in accordance with Schedule B.3.
   f) A copy of the SWPCP shall be kept at the facility and made available upon request to government agencies responsible for storm water management in the permittee's area.

2. **Storm Water Pollution Control Plan Requirements**
   a) **Site Description** The SWPCP shall contain the following information:
      i) A description of the industrial activities conducted at the site. Include a description of the significant materials (see Schedule D.3, Definitions) that are stored, used, treated and/or disposed of in a manner that allows exposure to storm water. Also describe the methods of storage, usage, treatment and/or disposal.
      ii) A general location map showing the location of the site in relation to surrounding properties, transportation routes, surface waters and other relevant features.
      iii) A site map including the following:
         (1) drainage patterns
         (2) drainage and discharge structures
         (3) outline of the drainage area for each storm water outfall
         (4) paved areas and buildings within each drainage area
         (5) areas used for outdoor manufacturing, treatment, storage, and/or disposal of significant materials
         (6) existing structural control measures for reducing pollutants in storm water runoff
         (7) material loading and access areas
         (8) hazardous waste treatment, storage and disposal facilities
         (9) location of wells including waste injection wells, seepage pits, drywells, etc.
         (10) location of springs, wetlands and other surface water bodies.
      iv) Estimates of the amount of impervious surface area (including paved areas and building roofs) relative to the total area drained by each storm water outfall.
      v) For each area of the site where a reasonable potential exists for contributing pollutants to storm water runoff, identify the potential pollutants that could be present in storm water discharges.
      vi) The name(s) of the receiving water(s) for storm water drainage. If drainage is to a municipal storm sewer system, the name(s) of the ultimate receiving waters and the name of the municipality.

vii) Identification of the discharge outfall(s) and the point(s) where storm water monitoring will occur as required by Schedule B. If multiple discharge outfalls exist but will not all be monitored (as allowed in Schedule B.1.c), a description supporting this approach shall also be included.

b) **Site Controls** The permittee shall maintain existing controls and/or develop new controls appropriate for the site. The purpose of these controls is to eliminate or minimize the exposure of pollutants to storm water. In developing a control strategy, the SWPCP shall have the following minimum components. A description of each component shall be included in the SWPCP.

i) *Storm Water Best Management Practices* If technically and economically feasible, the following best management practices shall be employed at the site. A schedule for implementation of these practices shall be included in the SWPCP if the practice has not already been accomplished. This schedule must be consistent with the requirements for developing and implementing the SWPCP in Schedule C of the permit.

(1) Containment - All hazardous materials (see Schedule D.3, Definitions) shall be stored within berms or other secondary containment devices to prevent leaks and spills from contaminating storm water. If the use of berms or secondary containment devices is not possible, then hazardous materials shall be stored in areas that do not drain to the storm sewer system.

(2) Oil and Grease - Oil/Water separators, booms, skimmers or other methods shall be employed to eliminate or minimize oil and grease contamination of storm water discharges.

(3) Waste Chemicals and Material Disposal - Wastes shall be recycled or properly disposed of in a manner to eliminate or minimize exposure of pollutants to storm water. All waste contained in bins or dumpsters where there is a potential for drainage of storm water through the waste shall be covered to prevent exposure of storm water to these pollutants. Acceptable covers include, but are not limited to, storage of bins or dumpsters under roofed areas and use of lids or temporary covers such as tarps.

(4) Erosion and Sediment Control - Erosion control methods such as vegetating exposed areas, graveling or paving shall be employed to minimize erosion of soil at the site. Sediment control methods such as detention facilities, sediment control fences, vegetated filter strips, bioswales, or grassy swales shall be employed to minimize sediment loads in storm water discharges. For activities that involve land disturbance, the permittee shall contact the local municipality to determine if there are other applicable requirements.

(5) Debris Control - Screens, booms, settling ponds, or other methods shall be employed to eliminate or minimize debris in storm water discharges.

(6) Storm Water Diversion - Storm water shall be diverted away from fueling, manufacturing, treatment, storage, and disposal areas to prevent exposure of uncontaminated storm water to potential pollutants.

(7) Covering Activities - Fueling, manufacturing, treatment, storage, and disposal areas shall be covered to prevent exposure of storm water to potential pollutants. Acceptable covers include, but are not limited to, permanent structures such as roofs or buildings and temporary covers such as tarps.

(8) Housekeeping - Areas that may contribute pollutants to storm water shall be kept clean. Sweeping, prompt clean up of spills and leaks, and proper maintenance of vehicles shall be employed to eliminate or minimize exposure of storm water to pollutants.

ii) *Spill Prevention and Response Procedures* Methods to prevent spills along with clean-up and notification procedures shall be included in the SWPCP. These methods and procedures shall be made available to appropriate personnel. The required clean up material shall be on-site or readily available. Spills prevention plans required by other regulations may be substituted for this provision providing that storm water management concerns are adequately addressed.

iii) *Preventative Maintenance* A preventative maintenance program shall be implemented to ensure the effective operation of all storm water best management practices. At a minimum the program shall include:
   (1) Monthly inspections of areas where potential spills of significant materials or industrial activities could impact storm water runoff.
   (2) Monthly inspections of storm water control measures, structures, catch basins, and treatment facilities.
   (3) Cleaning, maintenance and/or repair of all materials handling and storage areas and all storm water control measures, structures, catch basins, and treatment facilities as needed upon discovery.

iv) *Employee Education* An employee orientation and education program shall be developed and maintained to inform personnel of the components and goals of the SWPCP. The program shall also address spill response procedures and the necessity of good housekeeping practices. A schedule for employee education shall be included in the SWPCP.

c) **Record Keeping and Internal Reporting Procedures** The following information shall be recorded and maintained at the facility and provided to the Department and other government agencies upon request. This information does not need to be submitted as part of the SWPCP.
   i) Inspection, maintenance, repair and education activities as required by the SWPCP.
   ii) Spills or leaks of significant materials that impacted or had the potential to impact storm water or surface waters. Include the corrective actions to clean up the spill or leak as well as measures to prevent future problems of the same nature.

ADDITIONAL REQUIREMENTS

3. **Oregon Administrative Rule (OAR) 340-44-50, Waste Disposal Wells for Surface Drainage** OAR 340-44-50 requires that waste disposal wells for storm drainage only be used in those areas where there is an adequate confinement barrier or filtration medium between the well and an underground source of drinking water; and where construction of surface discharging storm sewers is not practical. In addition, this rule requires the following:
   a) New storm drainage disposal wells shall be as shallow as possible but shall not exceed a depth of 100 feet.
   b) Disposal wells shall be located at least 500 feet from domestic water wells.
   c) Using a disposal well for agricultural drainage is prohibited.
   d) Using a disposal well for surface drainage in areas where toxic chemicals or petroleum products are stored or handled is prohibited unless there is containment around the product area which will prevent spills and leaks from entering the well.
   e) Any owner or operator of the disposal well shall have available a means of temporarily plugging or blocking the well in the event of an accident of spill.
   f) Any area that is drained by a disposal well shall be kept clean of petroleum products and other organic or chemical wastes as much as practicable to minimize the degree of contamination of the storm water drainage.

4. **Oregon Administrative Rule 340-41-26(3)(a)(D), Surface Water Temperature Management Plan** Individual storm water discharges are not expected to cause a measurable increase in stream temperature. Compliance with this permit meets the requirement of OAR 340-41-26(3)(a)(D) to develop and implement a surface water temperature management plan. If it is determined that storm discharges in a particular basin are impacting a Total Maximum Daily Load for temperature, then permittees in this basin will be required to implement additional management practices to reduce the temperature of the discharges. These practices include, but are not limited to, increased vegetation to provide for shading, underground conveyance systems or detention vaults, and filter treatment systems to reduce detention times.

5. **Storm Water Only** This permit only regulates the discharge of storm water. It does not authorize the discharge or on-site disposal of process wastewater, wash water, boiler blowdown, cooling water, air conditioning condensate, deicing residues, or any other non-storm discharges associated with the facility.

   Any other wastewater discharge or disposal must be permitted in a separate permit. A separate Department permit may not be required if the wastewater is reused or recycled without discharge or disposal, or discharged to the sanitary sewer with approval from the local sanitary authority.

6. **Specific River Basin Requirements** The permittee shall comply with any Oregon Administrative Rule requirements for storm water management specific to the applicable river basin.

7. **Water Quality Standards** The ultimate goal for permittees is to comply with water quality standards in OAR 340-41. In instances where a storm water discharge adversely impacts water quality, the Department may require the facility to implement additional management practices, apply for an individual permit, or take other appropriate action.

CODE OF FEDERAL REGULATION STORM WATER DISCHARGE LIMITATIONS

8. The permittee with the following activities shall be in compliance with the applicable limitations at the time of permit assignment:

CFR Industry Category	Parameter	Limitation	
Cement manufacturing facilities for runoff from material storage piles (40 CFR §411)	pH Total Suspended Solids (TSS)	6.0 - 9.0 SU 50 mg/l	
Steam powered electric power generation facilities with coal handling and storage facilities (40 CFR §423)	TSS	50 mg/l, Daily Maximum	
Manufacturing of asphalt paving and roofing emulsions (40 CFR §443)	Oil & Grease	20 mg/l, Daily Maximum	15 mg/l, 30 Day Average
	pH	6.0 - 9.0 SU	

STORM WATER DISCHARGE BENCHMARKS

9. **Benchmarks** Benchmarks are guideline concentrations not limitations. They are designed to assist the permittee in determining if the implementation of their SWPCP is reducing pollutant concentrations to below levels of concern. For facilities that are subject to federal limitations, benchmarks apply to only those pollutants that are not limited by the federal regulations. The following benchmarks apply to each point source discharge of storm water associated with industrial activity:

Parameter	Benchmark
Total Copper	0.1 mg/l
Total Lead	0.4 mg/l
Total Zinc	0.6 mg/l
pH	5.5 - 9 S.U.
Total Suspended Solids	130 mg/l
Oil & Grease	10 mg/l
** E. coli	406 counts/100 ml
Floating Solids (associated with industrial activities)	No Visible Discharge
Oil & Grease Sheen	No Visible Sheen

** The benchmark for E. coli applies only to landfills, if septage and sewage biosolids are disposed at the site, and sewage treatment plants.

10. **Review of SWPCP** If benchmarks are not achieved, the permittee shall review their SWPCP within 60 days of receiving sampling results. The purpose of this review is to determine if the SWPCP is being followed and to identify any additional technically and economically feasible site controls that need to be implemented to further improve the quality of storm water discharges. These site controls include best management practices, spill prevention and response procedures, preventative maintenance, and employee education procedures as described in Schedule A.2.b.

    a) **SWPCP Revision** Any newly identified site controls shall be implemented in a timely manner and incorporated into the SWPCP as an update. A new SWPCP is not required. If no additional site controls are identified, the permittee shall state as such in an update to the SWPCP.

    b) **SWPCP Revision Submittal** Results of this review shall be submitted to the Department in accordance with Schedule B.3 and made available upon request to government agencies responsible for storm water management in the permittee's area.

    c) **Background or Natural Conditions** If the permittee demonstrates that background or natural conditions not associated with industrial activities at the site cause an exceedance of a benchmark, then no further modifications to the SWPCP are required for that parameter. Upon successful demonstration of natural or background conditions through monitoring of the same storm event used to evaluate benchmarks the permittee would be eligible for the monitoring reduction as outlined in Schedule B.2.

SCHEDULE B
MONITORING AND REPORTING REQUIREMENTS

1. **Minimum Monitoring Requirements**

a) All permittees shall monitor storm water associated with industrial activity for the following:

GRAB SAMPLES OF STORM WATER	
Parameter	**Frequency**
Total Copper	Twice per Year
Total Lead	Twice per Year
Total Zinc	Twice per Year
pH	Twice per Year
Total Suspended Solids	Twice per Year
Oil & Grease	Twice per Year
**E. coli	Twice per Year

**The monitoring for E.coli applies only to landfills, if septage and sewage biosolids are disposed at the site, and sewage treatment plants.

VISUAL MONITORING OF STORM WATER	
Parameter	**Frequency**
Floating Solids (associated with industrial activities)	Once a Month (when discharging)
Oil & Grease Sheen	Once a Month (when discharging)

b) **Grab Samples** Grab samples that are representative of the discharge shall be taken at least 60 days apart. It is preferred, but not required, that one sample be collected in the fall and one in the spring. Compositing of samples from different drainage areas is not allowed.

c) **Multiple Point Source Discharges** The permittee may reduce the number of storm water monitoring points provided the outfalls have substantially identical effluents. Substantially identical effluents are discharges from drainage areas serving similar activities where the discharges are expected to be similar in composition. Outfalls serving areas with no exposure of storm water to industrial activities are not required to be monitored.

d) **Monitoring Location** All samples shall be taken at monitoring points specified in the SWPCP before the storm water joins or is diluted by any other wastestream, body of water or substance.

e) **No Exposure** If there is no exposure of storm water to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery at the site, monitoring is not required. The permittee shall submit an annual statement certifying as such in lieu of monitoring (refer to Schedule B.3.b). If exposure cannot be prevented, the permittee shall comply with Schedule B.

2. **Monitoring Reduction**
   a) **Visual Observations** There is no reduction allowed of the required visual observations.

   b) **Grab Samples** The permittee is not required to conduct sampling if the benchmarks specified in Schedule A.9 are met, or if the exceedance is due to natural or background conditions for at least four consecutive storm water monitoring events over 24 continuous months. Note that there is no reduction in monitoring allowed for facilities subject to limitations under CFR (Schedule A.8).
      i) Results from sampling events cannot be averaged to meet the benchmarks.
      ii) Monitoring waivers may be allowed for individual parameters.
      iii) Parameters in exceedance or not previously sampled shall be monitored as required in Schedule B.1 until the monitoring waiver condition above is met.
      iv) Monitoring data from the previous permit period may be used to meet the waiver requirement. This data shall be evaluated against the benchmarks specified in this permit.
      v) Monitoring data from the same storm event shall be used to demonstrate that background or natural conditions not associated with industrial activities at the site are contributing to the exceedance of a benchmark.
      vi) The permittee shall submit written notification to the Department when exercising the monitoring waiver condition (refer to Schedule B.3.c).

   c) **Reinstatement of Monitoring Requirements**
      i) The permittee shall conduct monitoring as specified in Schedule B.1 if changes to site conditions are expected to impact storm water discharge characteristics.
      ii) The Department may reinstate monitoring requirements as specified in Schedule B.1 if prior monitoring efforts were improper or results were incorrect.
      iii) Monitoring may also be reinstated if future sampling efforts indicate benchmarks are being exceeded.

3. **Reporting Requirements** The permittee shall submit the following to the appropriate DEQ regional office:
   a) **Monitoring Data** The permittee shall submit by July 15 of each year grab sampling and visual monitoring data for the previous monitoring period (July 1- June 30). If there was insufficient rainfall to collect samples, the permittee shall notify the Department by July 15 of each year.

   b) **No Exposure Certification** The permittee shall submit an annual certification by July 15 of each year if monitoring is not required due to no exposure of storm water to industrial activities. The certification shall state that site conditions have been evaluated and the facility meets the requirements of Schedule B.1.e.

   c) **Monitoring Reduction Notification** The permittee shall submit written notification when exercising the monitoring reduction condition in Schedule B.2.b.

   d) **SWPCP Update/Completion** The permittee shall prepare or update the SWPCP in accordance with Schedule C of the permit. The permittee shall submit an updated or completed SWPCP within 14 days after completion.

   e) **SWPCP Revision** The permittee shall submit any revisions to the SWPCP required by Schedule A.10 within 14 days after the SWPCP is revised. If the Department does not review and comment on the revised SWPCP within 30 days, the permittee shall implement the revisions as proposed.

SCHEDULE C
COMPLIANCE CONDITIONS AND SCHEDULES

1. **Existing Permittee** (for a facility with an NPDES storm water discharge permit assigned prior to September 30, 1996):

   a) Not later than 90 days after receiving this permit, the existing permittee shall revise and begin implementation of their SWPCP to meet any new permit requirements.

   b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP shall be implemented within 90 days after revision of SWPCP. Site control activities that require capital improvements shall be completed in accordance with the schedule set forth in the SWPCP.

2. **New Permittee with Existing Facility** (for a facility operating prior to September 30, 1996, without an NPDES storm water discharge permit):

   a) Not later than 90 days after receiving this permit, the new permittee shall prepare and begin implementation of their SWPCP.

   b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP shall be implemented within 90 days after completion of SWPCP. Site control activities that require capital improvements shall be completed in accordance with the schedule set forth in the SWPCP.

3. **New Facility** (for a facility beginning operation after September 30, 1996):

   a) Prior to starting operations, a new facility shall prepare and begin implementation of their SWPCP.

   b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP shall be implemented within 90 days after beginning operation. Site control activities that require capital improvements shall be completed in accordance with the schedule set forth in the SWPCP.

4. **New Permittee Discharging to Clackamas River, McKenzie River above Hayden Bridge (River Mile 15) or North Santiam River.** Not later than 180 days after receiving this permit, new permittees discharging to Clackamas River, McKenzie River above Hayden Bridge (river mile 15) or North Santiam River shall submit to the Department a monitoring and water quality evaluation program. This program shall be effective in evaluating the in-stream impacts of the discharge as required by OAR 340-41-470. Within 30 days after Department approval, the permittee shall implement the monitoring and water quality evaluation program. New permittees are defined to include potential or existing dischargers that did not have a permit, and existing dischargers that have a permit but request an increased load limitation.

SCHEDULE D
SPECIAL CONDITIONS

1. **Releases in Excess of Reportable Quantities.** This permit does not relieve the permittee of the reporting requirements of 40 CFR §117 Determination of Reportable Quantities for Hazardous Substances and 40 CFR §302 Designation, Reportable Quantities, and Notification.

2. **Availability of SWPCP and Monitoring Data.** The Storm Water Pollution Control Plan and/or storm water monitoring data shall be made available to government agencies responsible for storm water management in the permittee's area.

3. **Definitions**

   a) *Capital Improvements* means the following improvements that require capital expenditures:
      i) Treatment best management practices including but not limited to settling basins, oil/water separation equipment, catch basins, grassy swales, and detention/retention basins.
      ii) Manufacturing modifications that incur capital expenditures, including process changes for reduction of pollutants or wastes at the source.
      iii) Concrete pads, dikes and conveyance or pumping systems utilized for collection and transfer of storm water to treatment systems.
      iv) Roofs and appropriate covers for manufacturing areas.

   b) *Hazardous Materials* as defined in 40 CFR §302 Designation, Reportable Quantities, and Notification.

   c) *Material Handling Activities* include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.

   d) *Point Source* means a discharge from any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, or conduit.

   e) *Significant Materials* includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with storm water discharges.

SCHEDULE F
NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to $10,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to $25,000 or by imprisonment for not more than one year, or by both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, a person who knowingly discharges, places or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state, is subject to a Class B felony punishable by a fine not to exceed $200,000 and up to 10 years in prison.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee shall correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application shall be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, revoked and reissued, or terminated for cause including, but not limited to, the following:

a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;
b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or
c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions
   (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.
   (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.
   (1) Bypass is prohibited unless:
      (a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;
      (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
      (c) The permittee submitted notices and requests as required under General Condition B.3.c.
   (2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.
   (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, if possible at least ten days before the date of the bypass.
   (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the causes(s) of the upset;
   (2) The permitted facility was at the time being properly operated;
   (3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
   (4) The permittee complied with any remedial measures required under General Condition A.3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions
(1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
(2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.
(3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

b. Prohibition of overflows. Overflows are prohibited unless:
(1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
(2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and
(3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.

c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.

d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permittee shall take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than $\pm$ 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than $20,000 per day of violation, or by imprisonment of not more than four years or both.

5. Reporting of Monitoring Results

Monitoring results shall be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports shall be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value shall be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information shall include:
a. The date, exact place, time and methods of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of such analyses.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative upon the presentation of credentials to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall comply with Oregon Administrative Rules (OAR) 340, Division 52, "Review of Plans and Specifications". Except where exempted under OAR 340-52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers shall be commenced until the plans and specifications are submitted to and approved by the Department. The permittee shall give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office shall be called. Outside of normal business hours, the Department shall be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission shall contain:

a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected;
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
e. Public notification steps taken, pursuant to General Condition B.7.

The following shall be included as information which must be reported within 24 hours under this paragraph:

a. Any unanticipated bypass which exceeds any effluent limitation in this permit.
b. Any upset which exceeds any effluent limitation in this permit.
c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports shall contain:

a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected; and
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Reports

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed $100,000 per violation and up to 5 years in prison.

10. Changes to Indirect Dischargers - **[Applicable to Publicly Owned Treatment Works (POTW) only]**

The permittee must provide adequate notice to the Department of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and;

b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For the purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

11. Changes to Discharges of Toxic Pollutant - **[Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]**

The permittee must notify the Department as soon as they know or have reason to believe of the following:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:
   (1) One hundred micrograms per liter (100 µg/l);
   (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
   (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
   (4) The level established by the Department in accordance with 40 CFR 122.44(f).

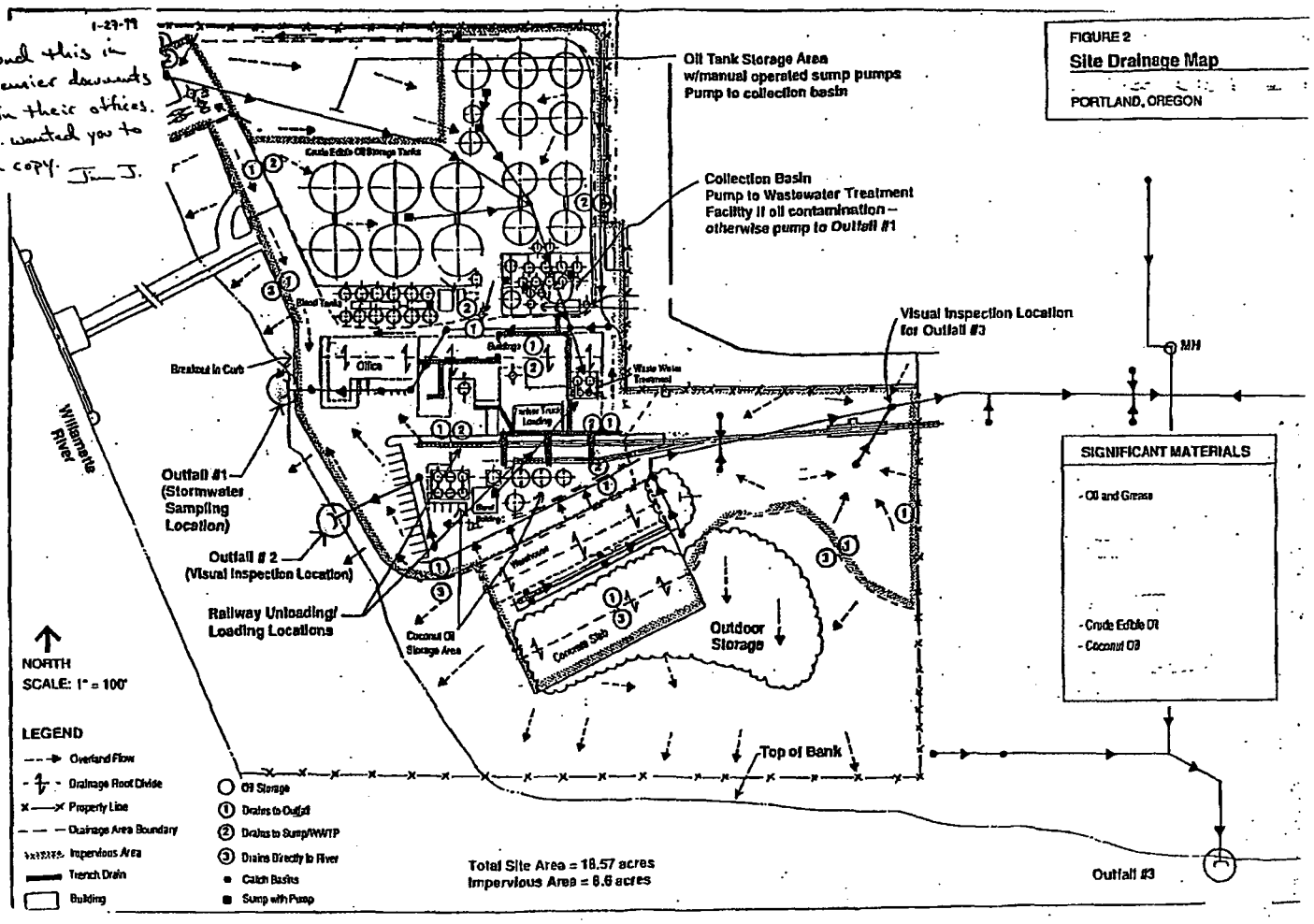
b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
   (1) Five hundred micrograms per liter (500 µg/l);
   (2) One milligram per liter (1 mg/l) for antimony;
   (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
   (4) The level established by the Department in accordance with 40 CFR 122.44(f).

SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids.
3. mg/l means milligrams per liter.
4. kg means kilograms.
5. m^3/d means cubic meters per day.
6. MGD means million gallons per day.
7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
8. FC means fecal coliform bacteria.
9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-41.
10. CBOD means five day carbonaceous biochemical oxygen demand.
11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
12. Quarter means January through March, April through June, July through September, or October through December.
13. Month means calendar month.
14. Week means a calendar week of Sunday through Saturday.
15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
17. POTW means a publicly owned treatment works.

1-29-99

I found this in the Premier documents found in their offices. Tom Z. wanted you to have a copy. Jim J.



SCHN00150762

NPDES 1200-Z General Permit for Storm Water Runoff

Discharge Monitoring Report

Complete report and send once a year by July 15 to:
Oregon DEQ

Legal Name:

Site/File ID #:

Common Name:

County:

Facility Location:

Reporting period: July 1, _____ to June 30, ____

Twice a Year Sampling

Monitor for the following pollutants at the monitoring points specified in your Storm Water Pollution Control Plan (SWPCP). Add more sheets if you have more than three monitoring points.

Pollutant Sample 2/Year, Each Monitoring Point[1]	Date of Sample	Monitoring Points # ____	# ____	# ____
Total copper – If value exceeds 0.1 mg/l, review/revision of SWPCP required				
Total lead – If value exceeds 0.4 mg/l, review/revision of SWPCP required				
Total zinc – If value exceeds 0.6 mg/l, review/revision of SWPCP required				
pH – If value is outside of 5.5 to 9.0 S.U., review/revision of SWPCP required[2]				
Total suspended solids – If value exceeds 130 mg/l, review/revision of SWPCP required[2]				
Oil and grease– If value exceeds 10 mg/l, review/revision of SWPCP required[2]				
E. coli – If value exceeds 406 counts/100 ml, review/revision of SWPCP required. Only applies to landfills accepting septage/biosolids and sewage treatment plants.				

See reverse side for additional visual monitoring and signature for report.

[1]Monitoring frequency may be reduced under some circumstances – refer to page 10 of your permit. If monitoring requirements have been waived, please write in "WAIVED" for that pollutant.
[2] Separate effluent limits for these pollutants apply for coal fired power plants, cement plants, and/or roofing or asphalt paving operations.

Monthly Visual Observations

Parameter and Requirements	Monitoring #,		Monitoring #		Monitoring #	
	Sample Date	Results	Sample Date	Results	Sample Date	Results
Oil and Grease Sheen - No visible sheen allowed. Monthly observation when discharging. For months when no discharges occur, please write in "No Discharge" for that month.						
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						
Floating Solids (associated with industrial activities) – No visible discharge allowed. Monthly observation when discharging. For months when no discharges occur, please write in "No Discharge" for that month.						
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						

Note – If there are any monitored results that exceed the benchmark values, you must review and revise as necessary your SWPCP within 60 days of exceeding the benchmark. SWPCP revisions must be submitted to DEQ within 14 days of completion.

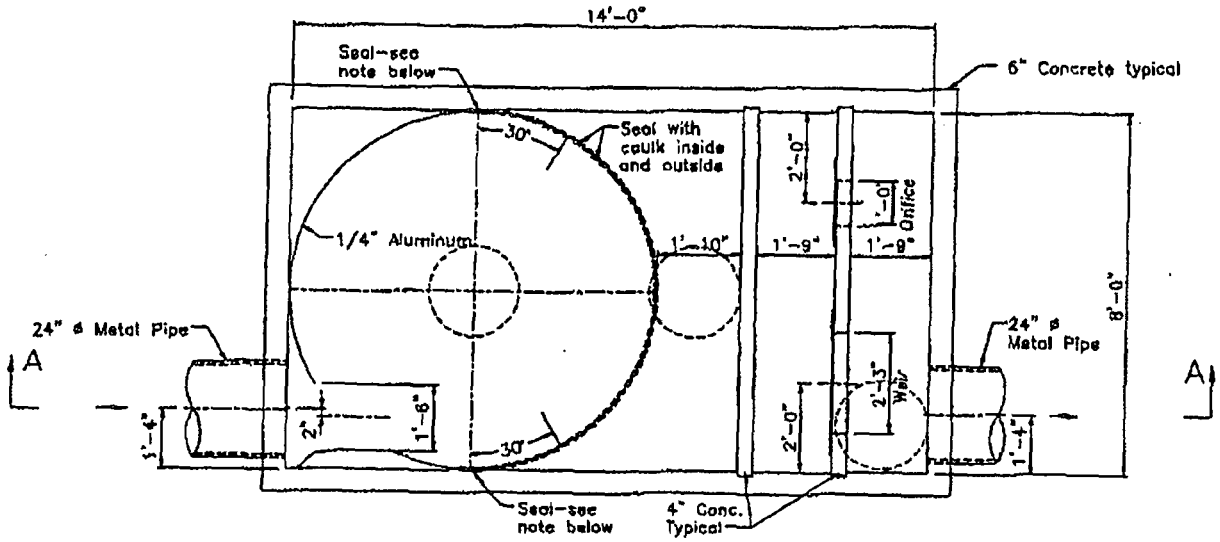
Signature Requirement

I certify, under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature of Responsible Official: _____

Name and Title (Please Print): _____

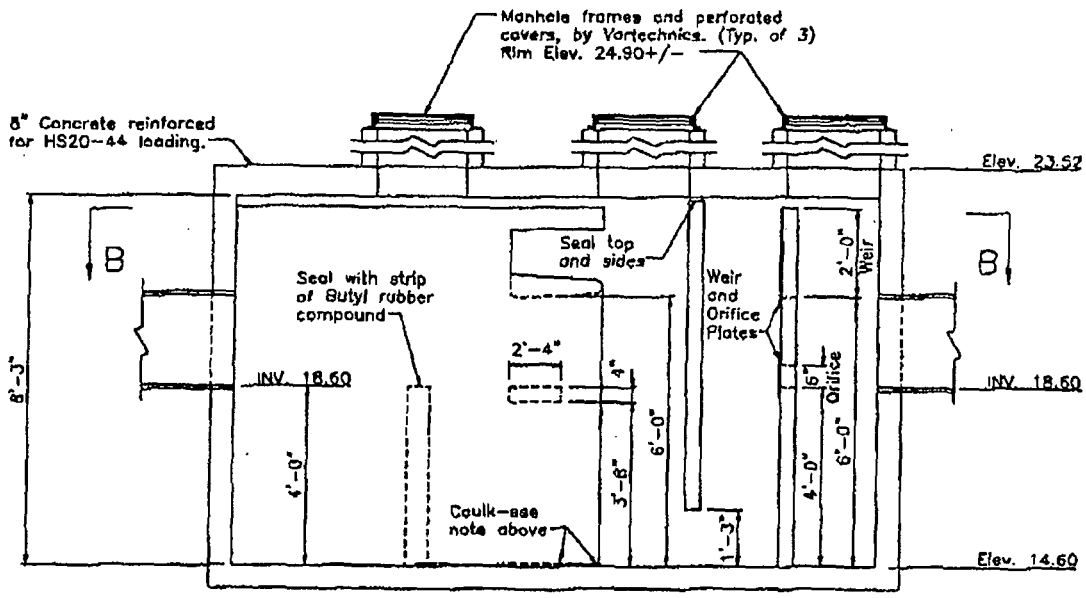
Date of Signature: _____ **Telephone:** _____



PLAN VIEW B – B

DESIGN SPECIFICATIONS:

TREATMENT CAPACITY: 11.0 CFS
OIL STORAGE: 1,200 GALLONS
SEDIMENT STORAGE: 4.0 CU. YD.
SEDIMENT CHAMBER DIA.: 8'-0" MIN.



SECTION A – A

This CADD file is for the purpose of specifying stormwater treatment equipment to be furnished by Vortechnics, Inc. and may only be transferred to other documents exactly as provided by Vortechnics. Title block information, excluding the Vortechnics logo and the Vortechs™ Stormwater Treatment System designation and patent number, may be deleted if necessary. Revisions to any part of this CADD file without prior coordination with Vortechnics shall be considered unauthorized use of proprietary information.

Vortechnics
41 Evergreen Drive
Portland, ME 04103
Tel.: 207-878-5662
Fax: 207-878-8507

SCHNITZER STEEL, NORTH PORTLAND, OR
STORMWATER TREATMENT SYSTEM
VORTECHS™ MODEL #7000 U.S. PATENT No. 5,759,415

DATE: 7/30/98	SCALE: 1/4" = 1'-0"	FILE NAME: 797T	DRAWN BY: NDG	CHECKED BY: TRA

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

Water Pollution Control Laboratory
6543 N. Burlington Ave., Portland, Oregon 97203-5452
(503) 823-5600

April 23, 2002

Mr. Matt Cusma
Schnitzer Steel Industries, Inc.
PO Box 10047
Portland, OR 97296-0047

Subject: Annual Facility Storm Water Inspection

Dear Mr. Cusma:

On April 10, 2002, City of Portland staff conducted an inspection of your facility, located at 12005 N. Burgard, for compliance with conditions contained in its NPDES 1200-Z Storm Water Permit. Overall, the results of the inspection were satisfactory and Schnitzer Steel Industries appears to be meeting the conditions of their permit.

During the inspection, we discussed the update to your Storm Water Pollution Control Plan (SWPCP) that is currently in progress. I have conducted a brief review of your SWPCP which is very complete and appears to meet virtually all of the permit requirements; however, I have the following comments:

SWPCP Required Elements

- Estimates of impervious surface area for each drainage basin must be included in the SWPCP (Schedule A, 2.a.iv).

SWPCP Recommended Elements

The following elements are not required; however, it is recommended that they be included in your SWPCP:

- Title page information including DEQ site or file number, county of site, site contact information, and mailing address (when different from site address);
- Outfall location description (i.e., freefall to receiving waters, submerged, etc.);
- A Non-Stormwater Discharge Certification;
- Sampling procedures for the various outfalls (i.e., sample from freefall at end of pipe, sampling port, etc.); and
- The following emergency phone number should be included in Appendix B of your Spill Prevention Control & Countermeasure (SPCC) Plan: City of Portland – Spill Hotline 503-823-7180.

Enclosed for your use is a blank copy of the SWPCP Checklist that the City uses to review SWPCPs as they are received.

It was a pleasure to meet you and your assistance with the inspection is appreciated. If you have any questions regarding this matter, please contact me at (503) 823-7383. Thank you.

Sincerely,

Aaron B. Wieting, R.G., C.H.M.M.
Environmental Technician
Industrial Storm Water Section

ABW:abw

c: Jim Jakubiak

STORMWATER POLLUTION CONTROL PLAN (SWPCP) WORKSHEET FOR 1200-Z

Industry name_____ ORG ID_____

PLAN REQUIREMENTS

Plan Certification

	YES	NO
Has an authorized representative of the facility signed the plan? [See Permit for appropriate signature based on type of business (i.e. Corporation, partnership, etc.)]		

Site Description

	YES	NO
Description of Industrial Activities		
Description of Significant Materials		
Descriptions of Waste Products		

	YES	NO
Methods of Storage		
Methods of Material Usage		
Methods of Disposal of Wastes		

Site Map

	YES	NO	N/A
Drainage Patterns			
Drainage & Discharge Structures			
Outline of Drainage area for each outfall			
Outfall Locations			
Paved areas and Buildings			
Pollution Control Structures			
Haz. Materials loading, storage etc.			
Springs, Wetlands, Surface Water Bodies			

	YES	NO	N/A
Industrial Activity Areas			
Storage Areas			
Manufacturing Areas			
Waste Disposal Areas			
Material Loading/Unloading Area			
Wells, seepage pits, drywells, etc.			
Sample Points			

	YES	NO
Is a general location map included in the plan?		

Impervious Surface – *Estimate of Impervious surface of each Stormwater Outfall in square feet.*

BASIN 1	*BASIN 2*	*BASIN 3*	*BASIN 4*	*BASIN 5*	*BASIN 6*	*TOTAL*

Potential Pollutants

	YES	NO
Within each drainage basin have Potential Pollutants been identified that may impact stormwater?		

Receiving Water(s) and Outfall

	YES	NO
Has receiving waterbody, including the MS4 discharge point (where applicable) been identified?		
Have the outfalls been identified and labeled?		
Have the outfalls that will be sampled been identified and described (Text and Site Map)?		

Site Controls – Best Management Practices (BMPs)

	YES	NO
Are the BMPs used at the site described in the SWPCP?		
Is an implementation schedule for BMPs not yet implemented included in the plan?		

Where applicable, are BMPs concerning the following activities included in the SWPCP?

	YES	NO	N/A
Containment			
Oil & Grease (O/ W Sep, CBs, etc.)			
Waste Chemicals & Material Disposal			
Covering Activities (Fueling, storage, etc)			

	YES	NO	N/A
Erosion & Sediment Control			
Debris Controls			
Storm Water Diversion			
Housekeeping (Sweeping, etc.)			

	YES	NO
Are Spill Prevention and Response Procedures described in the plan?		
Are the following Preventative Maintenance Procedures included in the plan?		
Monthly Inspections of areas of potential spills or industrial activities		
Monthly inspections of SW control measures, structures, CBs and treatment facilities		
As-needed Cleaning, Maintenance & Repair of all materials handling/Storage area and SW control measures, structures, CBs, and treatment facilities		
Has an Employee Orientation and Education program been developed and included in the plan?		

Record Keeping and Internal Reporting Procedures

	YES	NO
Has a procedure (log, checklist, etc) been developed to record Inspection, maintenance, repair and education activities been developed and included in the SWPCP?		
Has a procedure (log, checklist, etc) been developed to record spills at or above reportable quantities		

RECOMMENDED INCLUSIONS

Title page

	YES	NO
Name of Site		
Name of Site Operator		
DEQ Site or File Number		
County of Site		

	YES	NO
Revision date (Day, Month, Year)		
Contact Persons Name & Phone #		
Site Physical Address		
Mailing Address (if Different)		

Additional Site Description Items

	YES	NO
Is a description of building materials utilized on site included (i.e. roofing & siding material, etc)?		
Is a description of the catch basins included ("Lynch" style, flow-through, drain, etc.)?		
Is a description of surface water conveyance included (vegetated ditch or swale, lined ditch, etc.)?		
Is a description of the outfall including pipe material, size and location in regards to the receiving water or drainage system discussed (i.e. free-fall to receiving water, submerged, etc.)?		
Is a description of any off-site run-on (if applicable) discussed in the SWPCP?		

Non-Stormwater Discharge Certification

	YES	NO
Has a Non-Stormwater Certification been included in the SWPCP?		

Stormwater Discharge Benchmarks and Sampling Procedures

	YES	NO
Are the constituents and associated benchmarks included in the plan?		
Are sampling procedures and reporting requirements discussed in the plan?		

SWPCP Review Procedures

	YES	NO
Are SWPCP review requirements discussed in the plan?		
Is the annual reporting requirements discussed in the plan?		

NOTES

For BES use only
Date Received Reviewed by Plan Accepted Y / N

Columbia Analytical Services INC.
An Employee-Owned Company

November 14, 2000

Service Request No: K2008325

Jim Jakubiak
Schnitzer Steel Products Company
P.O. Box 10047
Portland, OR 97210

Re: SSP

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on October 23, 2000. For your reference, these analyses have been assigned our service request number K2008325.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3260.

Respectfully submitted,

Columbia Analytical Services, Inc.

Harvey Jacky
Project Chemist

HJ/gep

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 360/577-7222 • Fax 360/636-1068

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The reported value is estimated because of the presence of matrix interference.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Schnitzer Steel Products Co.	**Service Request No.:**	K2008325
Project:	SSP	**Date Received:**	10/23/00
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for sample(s) designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

All EPA recommended holding times have been met for analyses in this sample delivery group.

No difficulties were experienced during analysis of this batch.

Approved by HC Date 11/13/00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2008325
Project:	SSP	**Date Collected:**	10/20/00
Sample Matrix:	Water	**Date Received:**	10/23/00
		Date Extracted:	NA
		Date Analyzed:	10/23/00

pH
EPA Method 150.1
Units: pH Units

Sample Name	Lab Code	Result
2	K2008325-001	7.31
3	K2008325-002	8.20
4	K2008325-003	7.11
5	K2008325-004	8.39
6	K2008325-005	8.30
7	K2008325-006	7.75
16	K2008325-007	7.18
20	K2008325-008	6.95

Approved By: _____ Date: 10/31/00

1A/102094
08325WET.PW1 - pH 10/31/00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Schnitzer Steel Products Co.
Project: SSP
Sample Matrix: Water

Service Request: K2008325
Date Collected: 10/20/00
Date Received: 10/23/00
Date Extracted: NA
Date Analyzed: 10/26/00

Solids, Total Suspended (TSS)
EPA Method 160.2
Units: mg/L (ppm)

Sample Name	Lab Code	MRL	Result
2	K2008325-001	5	13
3	K2008325-002	5	82
4	K2008325-003	5	30
5	K2008325-004	5	206
6	K2008325-005	5	880
7	K2008325-006	5	8
16	K2008325-007	5	64
20	K2008325-008	5	16
Method Blank	K2008325-MB	5	ND

Approved By: _____ Date: 10/31/00

1AMRL/102594
08325WET.PW1 - TSS 10/31/00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2008325
Project:	SSP	**Date Collected:**	10/20/00
Sample Matrix:	Water	**Date Received:**	10/23/00
		Date Extracted:	11/6/00

Total Metals
Units: µg/L (ppb)

	Analyte:	**Copper**	**Lead**	**Zinc**
	EPA Method:	6010B	7421	6010B
	Method Reporting Limit:	10	2	10
	Date Analyzed:	11/9/00	11/6/00	11/9/00
Sample Name	**Lab Code**			
2	K2008325-001	30	19	287
3	K2008325-002	554	441	2300
4	K2008325-003	296	20	88
5	K2008325-004	240	375	1510
6	K2008325-005	2600	230	688
7	K2008325-006	14	15	48
16	K2008325-007	90	94	342
20	K2008325-008	ND	3	24
Method Blank	K2008325-MB	ND	ND	ND

Approved By: Emm Date: 11/10/00

3AEPA/102694

08325ICP.BR1 - Sample 11/9/00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2008325
Project:	SSP	**Date Collected:**	10/20/00
Sample Matrix:	Water	**Date Received:**	10/23/00
		Date Extracted:	11/2/00
		Date Analyzed:	11/3/00

Oil and Grease
EPA Method 1664
Units: mg/L (ppm)

		Oil & Grease, Total
	Analyte:	(HEM)
	Method Reporting Limit:	5.0
Sample Name	**Lab Code**	
2	K2008325-001	9.6
3	K2008325-002	10
4	K2008325-003	ND
5	K2008325-004	ND
6	K2008325-005	ND
7	K2008325-006	ND
16	K2008325-007	ND
20	K2008325-008	ND

Approved By: _____ Date: 11/6/00

2A/120594
08325PHC.SJ1 - SAMPLE 11/6/00

Columbia Analytical Services INC
An Employee-Owned Company
1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

CHAIN OF CUSTODY

SR#: R2008325

PAGE 1 OF 1 COC #

PROJECT NAME: SSP
PROJECT NUMBER: —
PROJECT MANAGER: Jim Jakubiak
COMPANY/ADDRESS: PO Box 10047
Portland, Oregon 9796-0047
PHONE #: (503) 286-6976 FAX #: (503) 286-6948
SAMPLER'S SIGNATURE: J. Jakubiak

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 413.1☐ 418.1☐ 1664 SGT☐ 1664 HEM☐	PCB's Aroclors☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐ Congeners☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS - 8310☐ SIM☐	GC/MS-SIM PAH☐	Phenol☐ Phthalates☐ (Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH Cond. Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle)	TOC 9020☐ AOX 1650☐ 506☐	TPH - 413.1				REMARKS
2	10/20	0745	1	W	3											X		X			X				
3	10/20	0752	2		3											X		X			X				
4	10/20	0800	3		3											X		X			X				
5	10/20	0840	4		3											X		X			X				
6	10/20	0835	5		3											X		X			X				
7	10/20	0915	6		3											X		X			X				
16	10/20	0945	7		3											X		X			X				
20	10/20	1005	8	↓	3											X		X			X				

00009

REPORT REQUIREMENTS

X I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To: See above

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe (Pb) Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORHTWEST OTHER: OR (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
J. Jakubiak	10/23/00 1000	Tracy Bowen	10/23/00 1000				
Signature	Date/Time	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
Jim Jakubiak	SSP	Bowen	CAL				
Printed Name	Firm	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm

SCHN00150778

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

Water Pollution Control Laboratory
6543 N. Burlington Ave., Portland, Oregon 97203-5452
(503) 823-5600

Date: June 16, 2000

To: Industrial Representative; 1200-COLS and 1200-Z Permit Holders within the City of Portland, OR

From: City of Portland Industrial Stormwater Program

Subject: Annual Stormwater Monitoring Data Submittal

Dear Industrial Representative:

As the holder of an NPDES Stormwater Permit, you are required to conduct two (2) monitoring events per sample point between July 1 and June 30. Your permit requires that copies of your monitoring data be submitted to the Oregon Department of Environmental Quality (DEQ) and the City of Portland. In addition, 1200-COLS permit holders are required to submit copies of their monthly temperature data results. It is not necessary to submit copies of your monthly visual monitoring data.

Please complete the enclosed Monitoring Report Form (copy for future use) and submit it with your laboratory reports and chain of custody forms. **The data submittal deadline is July 15, 2000.**

Please submit your monitoring results to the following:

Mr. Dennis Jurries
Oregon Department of Environmental Quality
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987

Mr. Brett M. Hulstrom
City of Portland - Industrial Stormwater Program
6543 N Burlington Avenue
Portland, OR 97203-5452

If you have any questions regarding this matter, please contact the City of Portland Industrial Stormwater Program staff at (503) 823-7807. Thank you.

Enclosure

SCHNITZER STEEL PRODUCTS CO.
3200 NW Yeon Avenue P.O. Box 10047 Portland, Oregon 97296-0047
Phone (503) 286-5771 Telex 289875 FAX (503) 286-6948

Mr. Dennis Jurries
Oregon Department of Environmental Quality
Northwest Region, Water Quality Program
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201

October 11, 1999

SUBJECT: Stormwater Pollution Control Plan
Schnitzer Steel Products Co., International Terminals
(File No. 108103)

Dear Mr. Jurries:

Schnitzer Steel Products Co. is pleased to submit the enclosed Stormwater Pollution Control (SWPC) Plan for the scrap metal processing facility located at the International Terminals in north Portland (File No. 108103). The SWPC Plan was prepared in accordance with the requirements of NPDES General Stormwater Discharge Permit 1200-Z. The plan has recently been revised as the result of a routine review of the Plan and existing facility conditions, and is being submitted in accordance with Permit Condition B.3(d).

If you have any questions or comments on the enclosed SWPC Plan, please do not hesitate to contact me directly at (503) 286-6944.

Sincerely,

SCHNITZER STEEL PRODUCTS CO.

MATHEW J. CUSMA
Environmental Administrator

mjc

SCHNITZER STEEL PRODUCTS CO.
3200 NW Yeon Avenue P.O. Box 10047 Portland, Oregon 97296-0047
Phone (503) 286-5771 Telex 289875 FAX (503) 286-6948

January 17, 2000

Mr. Michael J. Pronold
Manager, Industrial Stormwater Program
City of Portland, Environmental Services
6543 Burlington Avenue
Portland, Oregon 97203-5452

Dear Mr. Pronold,

We have enclosed a copy of our Storm Water Pollution Control Plan (SWPCP) and Storm Water Permit for our facility at 12005 North Burgard Road, as you requested. Unfortunately we were unable to assemble all the storm water analytical laboratory data you requested, within the short time frame allowed. However, this data has been previously submitted to the Oregon Department of Environmental Quality's Northwest Region as required by the permit. Copies of previously collected storm water data can be obtained from DEQ files. Future storm water data, collected in accordance with our SWPCP and permit (per Schedule B 3.) will be forwarded to the City's Environmental Services address listed above.

If you have questions or comments about the enclosed information, please do not hesitate to contact me at (503) 286-6976.

Sincerely,
SCHNITZER STEEL PRODUCTS CO.

Jim Jakubiak
Environmental Administrator

Cc: Tom Zelenka, Schnitzer Group
Matt Cusma, Schnitzer Steel

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

Water Pollution Control Laboratory
6543 N. Burlington Ave., Portland, Oregon 97203-5452
(503) 823-5600

16 December, 1999

TO: INDUSTRIAL REPRESENTATIVE; 1200-Z AND 1300-J PERMIT HOLDERS WITHIN THE CITY OF PORTLAND, OR

RE: ADMINISTRATION OF NPDES 1200-Z STORMWATER AND 1300-J WASTE DISCHARGE PERMITS

Dear Industrial Representative,

The City of Portland, Bureau of Environmental Services (City) and the Oregon Department of Environmental Quality (DEQ) have signed a Memorandum of Agreement (MOA) for the administration of NPDES 1200-Z, 1300-J, and future general permits for industrial stormwater within the City of Portland. The MOA gives the City the authority to act as DEQ's authorized representative in the administration of the permits. The MOA became effective December 7, 1999.

The MOA allows the City to use their existing framework for working directly with the industrial community to implement water pollution reduction practices. The City will perform inspections, collect stormwater samples, evaluate compliance with the permit, and provide technical assistance. DEQ will retain the statutory framework for the NPDES permit program, including, in part, issuing permits and follow-up enforcement.

Your facility has been identified as residing within the City limits and having a permit. If you have a **1200-Z** permit, please submit a copy of your Storm Water Pollution Control Plan (SWPCP), the cover page of your permit, and all storm water monitoring results (lab reports) to date per Schedule D(2) of the permit to the address on this letterhead by January 17, 2000.

If you have a **1300-J** permit, please submit a copy of your SWPCP if you are required to develop one, monitoring results (lab reports) associated with the SWPCP (Schedule B(4)), and the cover page of your permit by January 17, 2000. You do not need to submit monitoring results associated with Schedule B(2) and (3) of your permit.

A City representative will be in contact with you to schedule an inspection date. Until then, if you have questions please feel free to contact the City staff person on the included business card.

Thank you for your cooperation.

Sincerely,

Michael J. Pronold
Manager, Industrial Stormwater Program

SCHN00150790

Dear Customers:

This memo clarifies our policies for accepting recyclable metals. These requirements reflect our commitment to responsible environmental management. Please be aware that many of our policies are controlled by state and federal environmental regulations which apply both to us and to our customers.

This list is not inclusive; other items not listed may be inappropriate for recycling as scrap metal. Read this carefully and contact Tim Todd in our environmental department at (503) 286-6944 if you have questions about specific items. **Remember that any load can be rejected at your cost if these guidelines are not followed.**

The following materials WILL NOT be accepted at our facility:

- Refrigerants (including CFCs and HCFCs) in refrigerators and air conditioners (Clean Air Act Sections 608 (b)(1) and 608 (c)). Please note that these regulations prohibit any release of refrigerants into the atmosphere, and require persons handling them to follow specific procedures. In addition, suppliers MUST sign a statement certifying that all refrigerant has been properly removed (40CFR 82).
- Asbestos or asbestos containing materials such as pipe insulation, and surfacing material commonly found on I-beams and other building structures (40 CFR 61.150).
- Oils, gasoline, other petroleum products, and antifreeze. This includes hydraulic fluids, gear oil, and grease. Cars and other equipment must be drained of all fluids and generally free of oil and grease.
- Lead-acid batteries or any battery parts, including automobile batteries (40 CFR 273).
- Items that contain or have contained PCB's, including capacitors in older appliances, light ballasts, and electrical transformers or transformer components (TSCA and 40 CFR 258 and 261).
- Automobile airbags, which contain sodium azide (40 CFR 261).
- Paint cans or other paint containers.
- Fluorescent lights, mercury vapor lights, associated fixtures, or ballasts.
- Any material containing hazardous or toxic substances.
- Military scrap of any kind, unless approved in advance.
- Explosives or explosive materials.
- Tires, wood, yard debris, concrete, asphalt, glass, garbage, rubber or other non-metallic materials.
- Any radioactive materials.

The following items will be accepted ONLY if prepared as described:

- Appliances must have all electrical components removed.
- Engine oil filters must be thoroughly drained AND attached to motor blocks.
- Drums, barrels, and other containers must be thoroughly cleaned and open for inspection. Gas cylinders must be cut in half.
- Compressors must be removed from appliances, drained of all fluids, and cut in half.
- Cable and wire must be cut in 4 foot lengths. Metal banding must be cut in lengths of 1 foot or less. Chain link fencing must be in sections no larger than 18 feet by 4 feet.
- Aerosol cans must be empty, plastic caps removed, and punctured or crushed.

File

SCHNITZER STEEL PRODUCTS CO.

12005 N. Burgard St. Portland, Oregon 97203
P.O. Box 10047 Portland, Oregon 97210
Phone 503/286-5771 FAX 503/286-6948

July 13, 1999

Mr. Paul Keiran
Oregon Department of Environmental Quality
2020 SW Fourth Avenue, Suite 400
Portland, Oregon 97201-4987

Re: Storm Water Monitoring Results for 1998 – 1999 Permit #1200-Z, File #108103

Dear Mr. Keiran:

The tabulated storm water analytical data for the Schnitzer Steel Product's Co.'s facility located at 12005 North Burgard Road in Portland is attached. In January 1999 we installed a Vortechs Storm Water Treatment System at an area of our Site to improve storm water quality. We also continue to implement previously identified Best Management Practices (e.g., facility vacuuming/sweeping of roadways, use of catch basin filters, catch basin cleaning, installation of passive oil skimmers, etc.) to enhance the efficiency of the Vortechs system. We also continue to review available water quality treatment literature to evaluate further enhancement of our Best Management Practices.

We are also actively engaging our neighbors at upgradient locations to improve their water quality discharges. Many of our industrial neighbors discharge storm water through our storm drainage systems and outfalls. By continuing to encourage our neighbors to use better management practices, we hope to continue to reduce or eliminate their contribution of total suspended sediment, oil and grease, and other constituents to the storm drain outfalls.

Please contact me at (503) 286-6976 if you have questions.

Sincerely,
Schnitzer Steel Products Co.

Jim Jakubiak
Environmental Administrator

Attachments: Table 1
Laboratory Reports

Cc: Tom Zelenka

Table 1
Storm Water Sampling Results
Schnitzer Steel Products Co.
Portland, Oregon

			Laboratory Results				
Outfall	Date	pH	TSS	TPH	Copper	Lead	Zinc
2	11/23/98	7.56	280	23	0.725	1.06	7.67
	5/3/99	7.21	23	12	0.085	0.126	1.71
3	11/23/98	6.87	200	9	7.08	0.344	0.806
	5/3/99	7.09	ND	ND	0.051	0.027	0.262
4	11/23/98	9.75	1120	18	0.499	0.26	0.973
	5/3/99	7.06	ND	ND	0.197	0.003	0.064
5	11/23/98	8.36	220	9	4.76	0.284	0.49
	5/3/99	7.04	ND	ND	0.022	0.008	0.074
6	11/23/98	8.97	420	8	1.27	0.256	0.757
	5/3/99	7.05	ND	ND	0.073	0.004	0.012
7	11/23/98	8.15	19	6	0.132	0.088	0.237
	5/3/99	7.47	8	ND	0.012	0.003	0.011
8	11/23/98	8.2	46	8	0.169	0.116	0.336
	5/3/99	7	6	ND	0.199	0.004	0.063

Notes:

All analytical results reported in mg/L (ppm) except pH which is reported in SU units.

Outfall sample 8 is a field duplicate of outfall sample 7 on 11/23/98.

Outfall sample 8 is a field duplicate of outfall sample 4 on 5/3/99.

ND - Not detected

No floating solids or oil and grease sheen were noted during monthly monitoring.

Columbia Analytical Services INC.
An Employee-Owned Company

December 16, 1998

Service Request No: K9808122

Tim Todd
Schnitzer Steel Products Company
P.O. Box 10047
Portland, OR 97296-0047

Re: SSP

Dear Tim:

Enclosed are the results of the sample(s) submitted to our laboratory on November 25, 1998. Preliminary results were transmitted via facsimile on December 16, 1998. For your reference, these analyses have been assigned our service request number K9808122.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 239.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Boorse
Project Chemist

HB/bej

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 360/ 577-7222 • Fax 360/636-1068

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
J	Estimated concentration. The value is less than the method reporting limit, but greater than the method detection limit.
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected at or above the MRL
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K9808122
Project:	SSP	**Date Collected:**	11/23/98
Sample Matrix:	Water	**Date Received:**	11/25/98
		Date Extracted:	NA

Inorganic Parameters
Units: mg/L (ppm)

Analyte:	**pH (units)**	**Solids, Total Suspended (TSS)**
EPA Method:	150.1	160.2
Method Reporting Limit:	-	5
Date Analyzed:	11/25/98	11/25/98

Sample Name	**Lab Code**		
2	K9808122-001	7.56 (H)	280
3	K9808122-002	6.87 (H)	200
4	K9808122-003	9.75 (H)	1120
5	K9808122-004	8.36 (H)	220
6	K9808122-005	8.97 (H)	420
7	K9808122-006	8.15 (H)	19
8	K9808122-007	8.20 (H)	46
Method Blank	K9808122-MB	-	ND

H The Sample was received past the recommended hold time.

Approved By: _____ Date: 12/9/98

3ADW/061694
08122WET.LJ1 - 3_Tests 12/9/98

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K9808122
Project:	SSP	**Date Collected:**	11/23/98
Sample Matrix:	Water	**Date Received:**	11/25/98
		Date Extracted:	12/8/98

Total Metals
Units: µg/L (ppb)

	Analyte:	**Copper**	**Lead**	**Zinc**
	EPA Method:	6010B	7421	6010B
	Method Reporting Limit:	10	2	10
	Date Analyzed:	12/8/98	12/13/98	12/8/98
Sample Name	**Lab Code**			
2	K9808122-001	725	1060	7670
3	K9808122-002	7080	344	806
4	K9808122-003	499	260	973
5	K9808122-004	4760	284	490
6	K9808122-005	1270	256	757
7	K9808122-006	132	88	237
8	K9808122-007	169	116	336
Method Blank	K9808122-MB	ND	ND	ND

Approved By: JK Date: 12/15/98

3AEPA/102694
08122ICP.EA1 - Sample 12/15/98

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co,	**Service Request:**	K9808122
Project:	SSP	**Date Collected:**	11/23/98
Sample Matrix:	Water	**Date Received:**	11/25/98
		Date Extracted:	12/14/98
		Date Analyzed:	12/14/98

Oil and Grease
EPA Method 413.1
Units: mg/L (ppm)

Sample Name	Lab Code	MRL	Result
2	K9808122-001	5	23
3	K9808122-002	5	9
4	K9808122-003	5	18
5	K9808122-004	5	9
6	K9808122-005	5	8
7	K9808122-006	5	6
8	K9808122-007	5	8
Method Blank	K981214-MB	5	ND

Approved By: M Martin Date: 12/16/98

1AMRL 102594
08122PHC.FP1 - 413w 12/15/98

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

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SR#: K9808122

PAGE 1 OF 1 COC #

PROJECT NAME SSP
PROJECT NUMBER
PROJECT MANAGER Tim Todd
COMPANY/ADDRESS P.O. Box 10047
Portland OR 97796-0047
PHONE # 503/286-6944 FAX # 286-6948
SAMPLER'S SIGNATURE Tim Todd

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Pesticide / Herbicides 608☐ 8081☐ 8141☐ 8151☐	Total Toxic Organics (TTO) 608☐ 624☐ 625☐	PCB AROCLORs 8082	NWTPH - HCID☐ NWTPH-D☐ NWTPH-G☐	Hydrocarbon Scan☐ O & G☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	GC/MS-SIM PAH☐ Phenol☐ Phthalates☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle)	TOC 9020☐ AOX 1650☐ 506☐	TPH- 413.1				REMARKS
2	11/23	1320	1	H_2O	3											X		X			X				
3		1330	2													X		X			X				
4		1347	3													X		X			X				
5		1410	4													X		X			X				
6		1430	5													X		X			X				
7		1455	6													X		X			X				
8		1510	7													X		X			X				

REPORT REQUIREMENTS

1 I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
Signature: Tim Todd Date/Time: 11/24/98	Signature: [signature] Date/Time: 11/25/98 2:30	Signature Date/Time	Signature Date/Time
Printed Name: Tim Todd Firm: SSP	Printed Name: [signature] Firm: CAS	Printed Name Firm	Printed Name Fin.

SCHN00150805

Columbia Analytical Services INC.
An Employee-Owned Company

May 21, 1999

Service Request No: K9902824

Jim Jakubiak
Schnitzer Steel Products Company
P.O. Box 10047
Portland, OR 97296-0047

Re: SSP

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on May 6, 1999. For your reference, these analyses have been assigned our service request number K9902824.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 260.

Respectfully submitted,

Columbia Analytical Services, Inc.

Harvey Jacky
Project Chemist

HJ/klg

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 360/577-7222 • Fax 360/636-1068

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
J	Estimated concentration. The value is less than the method reporting limit, but greater than the method detection limit.
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected at or above the MRL
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Schnitzer Steel Products Co.	**Service Request No.:**	K9902824
Project:	SSP	**Date Received:**	5/6/99
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for sample(s) designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

All EPA recommended holding times have been met for analyses in this sample delivery group.

The following difficulties were experienced during analysis of this batch:

Samples #2, #3, #4, #5, #6, #7, and #8 were received past the recommended holding time for pH, EPA Method 150.1. The samples were analyzed as soon as possible after receipt by the laboratory.

No other difficulties were experienced during analysis of this batch.

Approved by HS **Date** 5/20/99

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K9902824
Project:	SSP	**Date Collected:**	5/3/99
Sample Matrix:	Water	**Date Received:**	5/6/99
		Date Extracted:	NA

Inorganic Parameters
Units: mg/L (ppm)

Analyte:	pH (units)	Solids, Total Suspended (TSS)
EPA Method:	150.1	160.2
Method Reporting Limit:	-	5
Date Analyzed:	5/6/99	5/7/99

Sample Name	Lab Code		
#2	K9902824-001	7.21 (H)	23
#3	K9902824-002	7.09 (H)	ND
#4	K9902824-003	7.06 (H)	ND
#5	K9902824-004	7.04 (H)	ND
#6	K9902824-005	7.05 (H)	ND
#7	K9902824-006	7.47 (H)	8
#8	K9902824-007	7.00 (H)	6
Method Blank	K9902824-MB	-	ND

H The Sample was received past the recommended hold time.

Approved By: _____ Date: 5/11/99

3ADW/061694
02824WET.LJ1 - 3_Tests 5/11/99

SCHN00150809

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K9902824
Project:	SSP	**Date Collected:**	5/3/99
Sample Matrix:	Water	**Date Received:**	5/6/99
		Date Extracted:	5/7/99

Total Metals
Units: µg/L (ppb)

	Analyte:	**Copper**	**Lead**	**Zinc**
	EPA Method:	6010B	7421	6010B
	Method Reporting Limit:	10	2	10
	Date Analyzed:	5/11/99	5/7, 10/99	5/11/99
Sample Name	**Lab Code**			
#2	K9902824-001	85	126	1710
#3	K9902824-002	51	27	262
#4	K9902824-003	197	3	64
#5	K9902824-004	22	8	74
#6	K9902824-005	73	4	12
#7	K9902824-006	12	3	11
#8	K9902824-007	199	4	63
Method Blank	K9902824-MB	ND	ND	ND

Approved By: _____ Date: 5/14/99

3AEPA/102694

02824ICP.BR1 - Sample 5/13/99

Columbia Analytical Services INC.
An Employee-Owned Company

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SR#: K9902824

PAGE 1 OF 1 COC # 1

PROJECT NAME: SSP
PROJECT NUMBER:
PROJECT MANAGER: Jim Jakubiak
COMPANY/ADDRESS: P.O. Box 10047
Portland, Oregon 9796-0047
PHONE #: (503) 286-6976 FAX #: (503) 286-6948
SAMPLER'S SIGNATURE: James L Jakubiak

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐	Volatile Organics 624☐ 8260☐	Pesticide / Herbicides 608☐ 8081☐	Total Toxic Organics (TTO) 608☐ 624☐ 625☐	PCB AROCLORs 8082	NWTPH - HCID☐ NWTPH-D☐	NWTPH-G☐ Hydrocarbon Scan☐	O & G☐ Chlorophenolics - 8151M Tri☐ Tetra☐	PCP☐ PAHs 8310☐	SIM☐ GC/MS-SIM PAH☐	Phenol☐ Phthalates☐ Metals, Total or Dissolved (See list below)	Cyanide☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, (SS) TDS (circle)	Hex-Chrom☐	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle)	TOC 9020☐	AOX 1650☐ 506☐	TPH-413.1				REMARKS
#2	5-3-99	10:10		H2O												X		X			X				
#3	5-3-99	10:30		↓												X		X			X				
#4	5-3-99	11:10														X		X			X				
#5	5-3-99	10:40														X		X			X				
#6	5-3-99	10:15														X		X			X				
#7	5-3-99	11:25														X		X			X				
#8	5-3-99	12:00		↓												X		X			X				

REPORT REQUIREMENTS

X I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To: Jim Jakubiak
P.O. Box 10047
Portland, OR 979-0047

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

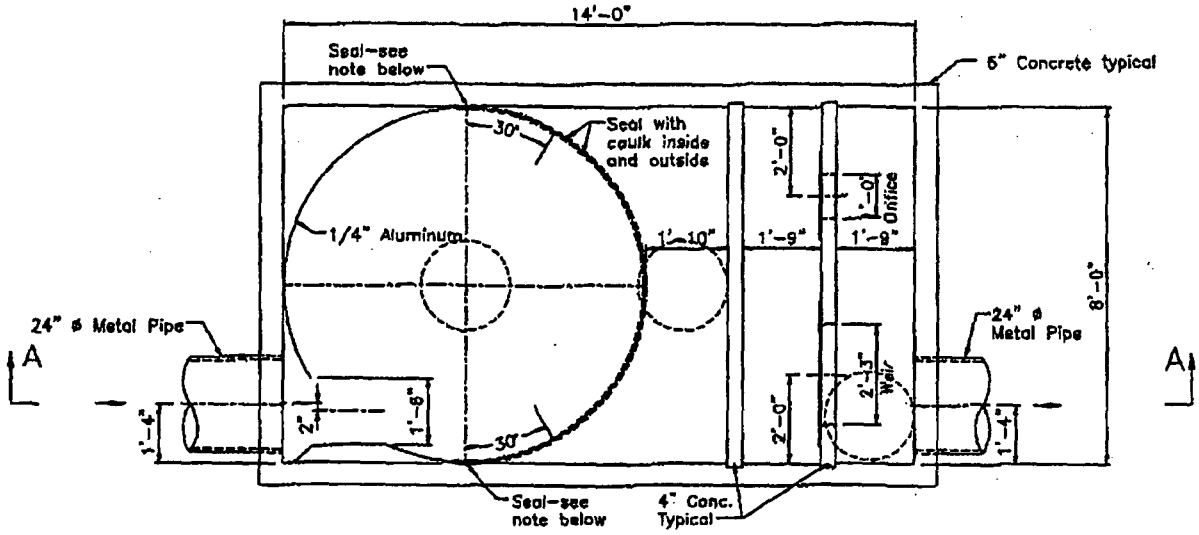
Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
Signature: James L Jakubiak Date/Time: 5-5-99/0800	Signature: [illegible] Date/Time: 5/6/99 300	Signature: Date/Time:	Signature: Date/Time:
Printed Name: James L. Jakubiak Firm: SSP	Printed Name: [illegible] Firm: CAS	Printed Name: Firm:	Printed Name: Firm:

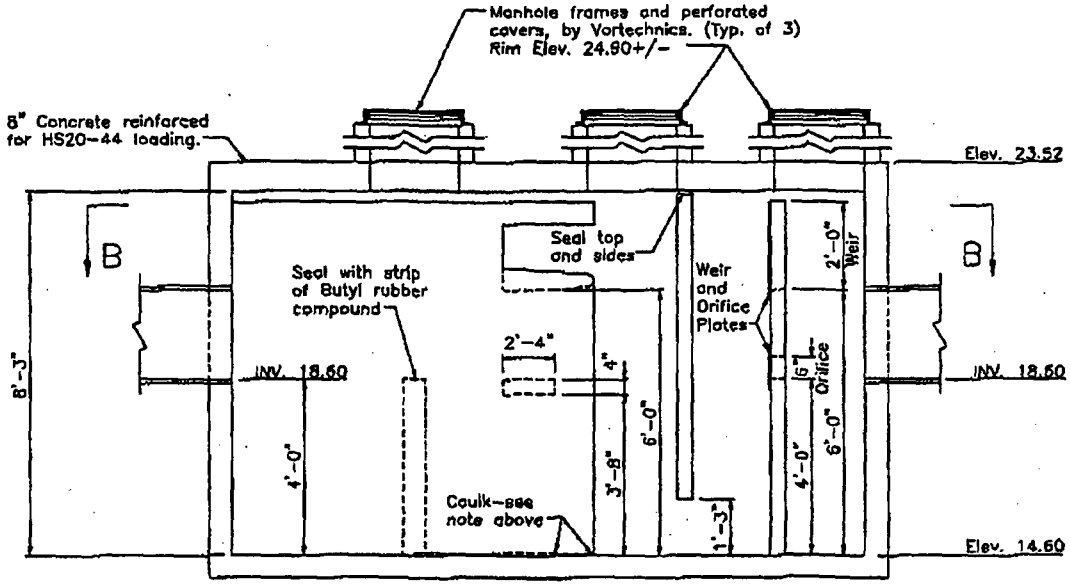
SCHN00150811



PLAN VIEW B – B

DESIGN SPECIFICATIONS:

TREATMENT CAPACITY: 11.0 CFS
OIL STORAGE: 1,200 GALLONS
SEDIMENT STORAGE: 4.0 CU. YD.
SEDIMENT CHAMBER DIA.: 8'-0" MIN.



SECTION A – A

This CADD file is for the purpose of specifying stormwater treatment equipment to be furnished by Vortechnics, Inc. and may only be transferred to other documents exactly as provided by Vortechnics. Title block information, excluding the Vortechnics logo and the Vortechs™ Stormwater Treatment System designation and patent number, may be deleted if necessary. Revisions to any part of this CADD file without prior coordination with Vortechnics shall be considered unauthorized use of proprietary information.

Vortechnics
41 Evergreen Drive
Portland, ME 04103
Tel.: 207-878-5662
Fax: 207-878-8507

SCHNITZER STEEL, NORTH PORTLAND, OR
STORMWATER TREATMENT SYSTEM
VORTECHS™ MODEL #7000 U.S. PATENT No. 5,759,415

DATE:	SCALE:	FILE NAME:	DRAWN BY:	CHECKED BY:
7/30/98	1/4" = 1'-0"	797T	NDG	TRA

Vortechnics

Vortechs™ Stormwater Treatment System

SPECIFIER'S WORKSHEET

PROJECT/SITE INFORMATION

Project Name: Schnitzer Steel - Portland		Location (City, State): 12005 N. Burgard Rd Portland Oregon
Site Plan Enclosed*: Yes ___ No ___	Date Submitted: 7/20/18	High Seasonal Groundwater**: Yes___ No X
Describe Pollutant Load: sediment, liquid contaminants, spills, etc.: Sediment, Oil, Grease		

SPECIFIER INFORMATION

Specifier Name: Tim Todd	Phone: 503/286-6944	Fax: 286-6948	E-mail address: ttodd@schnfad We use AutoCAD Version 14
Company: Schnitzer Steel	Address:		

COLLECTION SYSTEM REQUIREMENTS AND VORTECHS SYSTEM SPECIFICATIONS

Your Site Plan Designation	Vortechs Model No. (From sizing chart)	Contributing Drainage Area			Design Flow Rate	Design Storm Recurrence Interval ***	Pipe Size and Material		Elevations	
		Area	Percent Impervious	Tc			Inlet	Outlet	Invert	Rim
							24"ID	24"ID		24.90'
							Steel	Steel	18.25'	

*Vortechnics requests that a copy of the site plan be mailed to us, in order to facilitate the design process.
**Note: Anti-floatation collar may be required if high water table is within 1 ft. of finished grade.
*** If design storm is based on ½" or 1" runoff of duration equal to time of concentration, enter ½"/Tc or 1"/Tc here.

Specifier's Signature confirms information is accurate as of date submitted: Tim Todd Reviewed by Vortechnics Technical Dept. _____

Vortechnics Inc. ▼ 41 Evergreen Drive, Portland ME 04103 ▼ Ph 207.878.3662 ▼ Fax 207.878.8507 ▼ E-mail vortechnics@vortechnics.com

SCHN00150814

Vortechnics

Vortechs™ Stormwater Treatment System

SPECIFIER'S WORKSHEET

PROJECT/SITE INFORMATION

Project Name:		Location (City, State):
Site Plan Enclosed*: Yes ___ No ___	Date Submitted:	High Seasonal Groundwater**: Yes___ No ___
Describe Pollutant Load: sediment, liquid contaminants, spills, etc.:		

SPECIFIER INFORMATION

Specifier Name:	Phone:	Fax:	E-mail address: We use AutoCAD Version _____
Company:	Address:		

COLLECTION SYSTEM REQUIREMENTS AND VORTECHS SYSTEM SPECIFICATIONS

Your Site Plan Designation	Vortechs Model No. (From sizing chart)	Contributing Drainage Area			Design Flow Rate	Design Storm Recurrence Interval ***	Pipe Size and Material		Elevations	
		Area	Percent Impervious	Tc			Inlet	Outlet	Invert	Rim

*Vortechnics requests that a copy of the site plan be mailed to us, in order to facilitate the design process.
**Note: Anti-floatation collar may be required if high water table is within 1 ft. of finished grade.
*** If design storm is based on ½" or 1" runoff of duration equal to time of concentration, enter ½"/Tc or 1"/Tc here.

Specifier's Signature confirms information is accurate as of date submitted: _____ Reviewed by Vortechnics Technical Dept. _____

Vortechnics Inc. ▼ 41 Evergreen Drive, Portland ME 04103 ▼ Ph 207.878.3662 ▼ Fax 207.878.8507 ▼ E-mail vortechnics@vortechnics.com

SCHN00150815

Vortechnics

Vortechs™ Stormwater Treatment System

SPECIFIER'S WORKSHEET

PROJECT/SITE INFORMATION

Project Name:		Location (City, State):
Site Plan Enclosed*: Yes ___ No ___	Date Submitted:	High Seasonal Groundwater**: Yes___ No ___
Describe Pollutant Load: sediment, liquid contaminants, spills, etc.:		

SPECIFIER INFORMATION

Specifier Name:	Phone:	Fax:	E-mail address: We use AutoCAD Version _____
Company:	Address:		

COLLECTION SYSTEM REQUIREMENTS AND VORTECHS SYSTEM SPECIFICATIONS

Your Site Plan Designation	Vortechs Model No. (From sizing chart)	Contributing Drainage Area			Design Flow Rate	Design Storm Recurrence Interval ***	Pipe Size and Material		Elevations	
		Area	Percent Impervious	Tc			Inlet	Outlet	Invert	Rim

*Vortechnics requests that a copy of the site plan be mailed to us, in order to facilitate the design process.
**Note: Anti-floatation collar may be required if high water table is within 1 ft. of finished grade.
*** If design storm is based on ½" or 1" runoff of duration equal to time of concentration, enter ½"/Tc or 1"/Tc here.

Specifier's Signature confirms information is accurate as of date submitted: _____ Reviewed by Vortechnics Technical Dept. _____

Vortechnics Inc. ▼ 41 Evergreen Drive, Portland ME 04103 ▼ Ph 207.878.3662 ▼ Fax 207.878.8507 ▼ E-mail vortechnics@vortechnics.com

SCHN00150816

SCHNITZER STEEL PRODUCTS CO.

12005 N. Burgard St. Portland, Oregon 97203
P.O. Box 10047 Portland, Oregon 97210
Phone 503/286-5771 FAX 503/286-6948

SCRAP DIVISION
FAX TRANSMITTAL COVER SHEET

TO: Steve Ward DATE: 7/20

NUMBER OF PAGES BEING SENT

FROM: Tim Todd (INCLUDING COVER PAGE) 2
286-6944

If message is incomplete or illegible, please call (503) 286-5771.

If you want to send a Fax to Schnitzer Steel, our Fax Number is (503) 286-6948.

RE: Cherry City Metals — A worksheet for Vortechnics is attached, please complete it & fax to the number shown on the bottom of the form, they'll fax or email appropriate design drawings. Send to the attention of Fran Tighe. This will replace the down stream separator. Please replace the in-line, up stream catch basin/separators with gravity, or baffle-type separators. Thank you.

Vortechnics

Engineered Products for Stormwater Treatment

RE: A SOLUTION TO URBAN AND INDUSTRIAL STORMWATER MANAGEMENT PROBLEMS

Thank you for your interest regarding Vortechnics products. We are pleased to send this information for your review.

A breakthrough in below-grade oil and grit separator technology, the **Vortechs™ Stormwater Treatment System** is designed to effectively remove and retain hydrocarbon-laden sediment, metals, silt, petroleum-based liquids, and other floatable and settleable pollutants from surface runoff.

The Vortechs System provides an **80% net TSS removal efficiency** for your design storm, with available treatment capacities of **3 to 25 cfs**. A unique combination of swirl-concentrator and flow-control technologies are engineered into the Vortechs System, to facilitate particle settling and minimize the energy which encourages pollutant resuspension and washout. Each system is custom-designed by Vortechnics engineers to ensure optimum performance for your site's requirements.

If your project calls for precise regulation of post-construction flows from detention ponds or underground storage facilities, consider Vortechnics **Hydro-brakes**. These stainless steel vortex valves provide optimal flow characteristics with **openings 3 to 4 times larger** than an orifice plate with the same design head and flow. Hydro-brakes are useful for a variety of applications including: inlet control (Flow Slipping), combined sewer overflow (CSO) abatement, and outlet control.

For further information regarding any of our products, or if you have a specific project you would like to discuss, please contact us today. We look forward to the opportunity to work with you in providing innovative solutions to your stormwater management needs.

Sincerely,

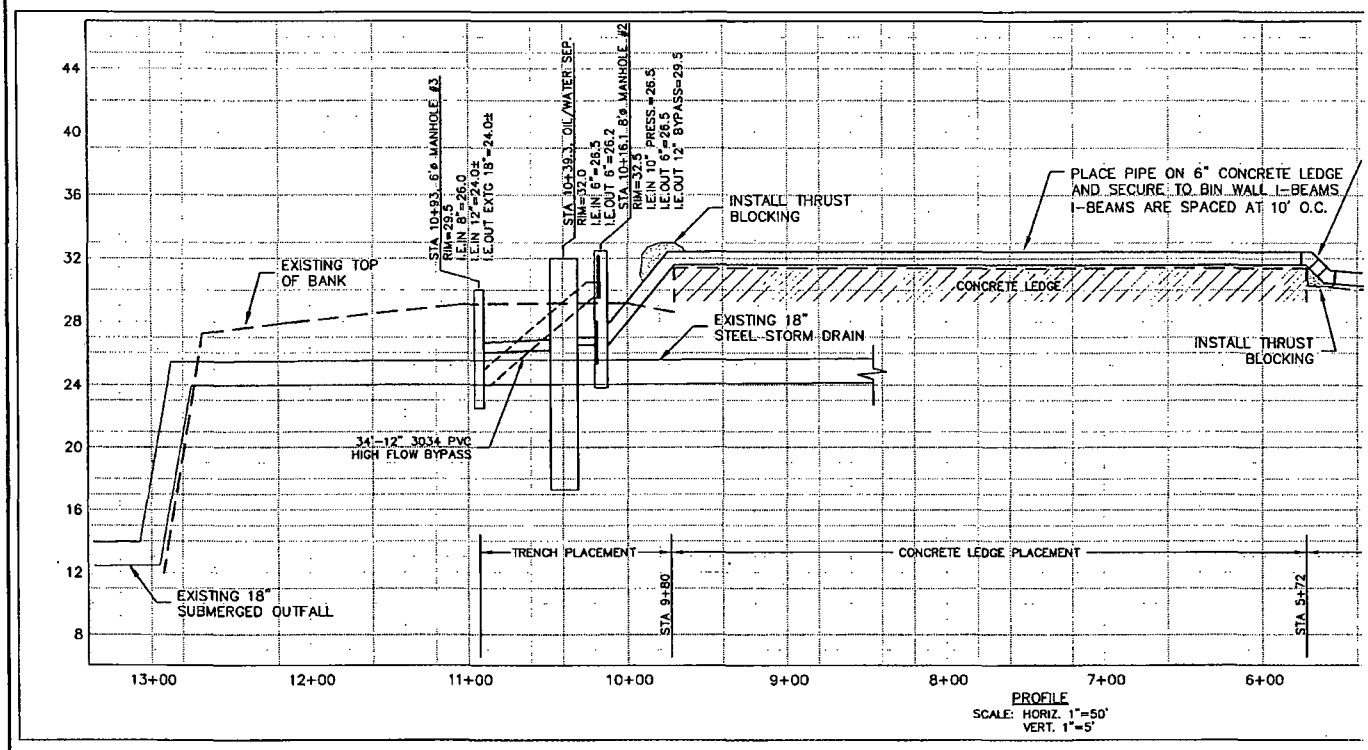
Francis Tighe

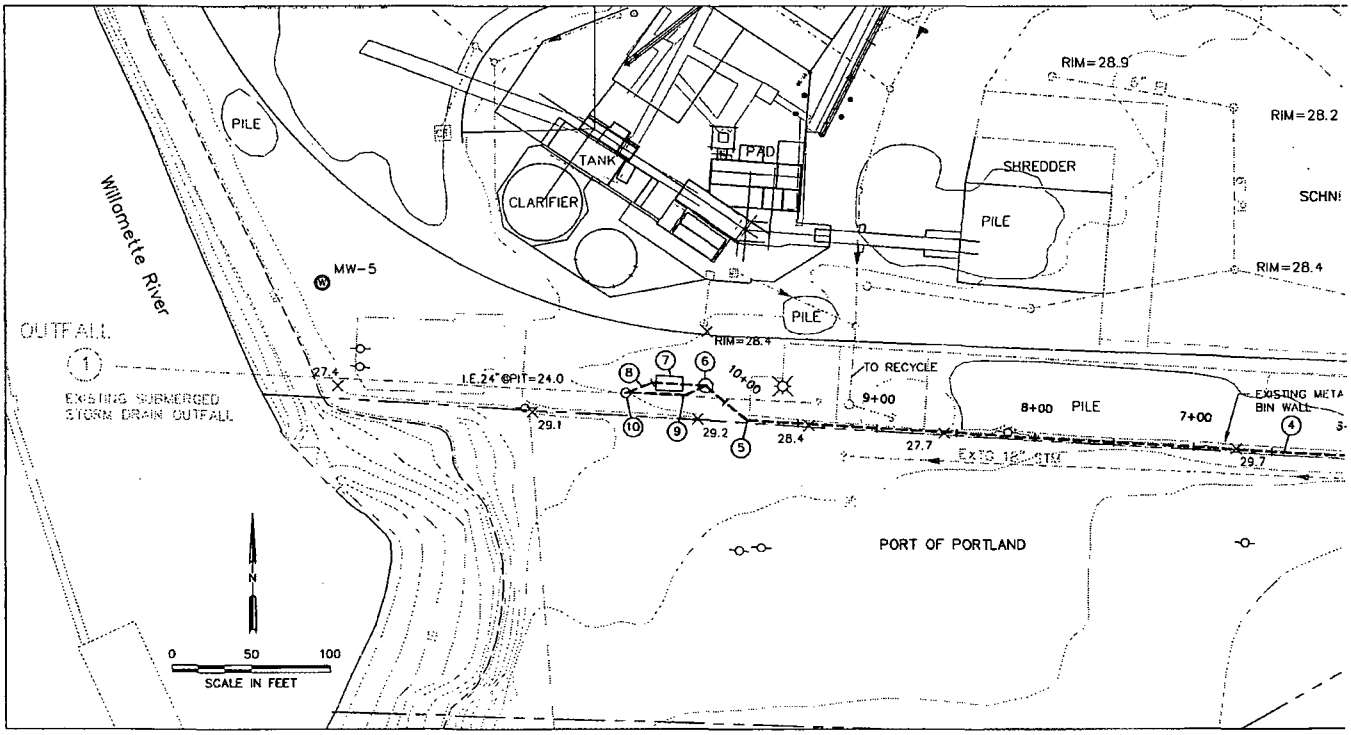
Francis R. Tighe
Sales Manager

41 Evergreen Drive, Portland, Maine 04103-1074
Tel. (207) 878-3662 • Fax (207) 878-8507 • e-mail vortechnics@vortechnics.com

Outfall #1 Pump

PUMPS AND CONTROLS			
NUMBER OF PUMPS = 3			
PUMP MODEL = FLYGT NP 3127	Drainage Area = 10.5 acres		
IMPELLER CODE = 439 MT	WQ Event = 0.53"/24 hr		
SPEED = 1750 RPM	Peak Q = 1.73 cfs = 775 gpm		
HORSE POWER RATING = 7.5			
POWER REQUIREMENT = 3 PHASE, 4 POLE			
DISCHARGE DIAMETER = 6 INCHES			
LEVEL MONITORING AND CONTROL SYSTEM = FLYGT MULTITRODE			
PUMP OPERATIONS	FLOW, GPM	TDH, FT	NPSHR, FT
ONE PUMP ON	938	22	18
TWO PUMPS ON (EACH)	862	26	18
THREE PUMPS ON (EACH)	721	31	19
PUMP CONTROLS	PUMP #1	PUMP #2	PUMP #3
PUMP ON LEVEL	14.5	16.5	18.5
PUMP OFF LEVEL	13.0	15.0	17.0
MINIMUM WATER LEVEL	12.0		
HIGH WATER ALARM LEVEL	30.3		
PUMP ALTERNATION = AT EACH STARTUP			





ELEVATIONS ARE BASED 2-3/4" INCH, U.S. ARMY OF CORPS OF ENGINEERS BRASS DISK EMBEDDED IN CONCRETE SLAB LOCATED IN THE NORTHWEST PROPERTY CORNER CITY OF PORTLAND DATUM ELEVATION = 33.55

SCHN00150821

FLYGT

SCHEDULED PUMP PREVENTATIVE MAINTENANCE INSPECTION AGREEMENT FLYGT CORPORATION

SERVICE - 21 POINT CHECK LIST

- ☐ Check electrical condition of insulation on power cable and on all phases of motor. (In Meg Ohms)
- ☐ Check for any loose or faulty electrical connections within the pump control panel.
- ☐ Measure resistance between stator windings. (In Ohms)
- ☐ Check voltage supply between all phases of the electrical control panel. (VAC)
- ☐ Check voltage balance between all phases on the load side* of the pump control with pump on. (VAC)
- ☐ Check amperage draws on all phases of the pump motor. (In Amps)
- ☐ Check condition and operation of motor thermal protectors control system (if so equipped).
- ☐ Removal of Flygt pump from lift station for physical inspection.
- ☐ Check condition of upper shaft seals (inspect condition of motor housing).
- ☐ Check condition and operation of leakage detector (if so equipped).
- ☐ Check lower shaft seals (inspect condition of oil).
- ☐ Change oil if needed (cost of oil included).
- ☐ Check for worn or loose impeller.
- ☐ Check all impeller wear rings. (Note: Wear rings are not covered by warranty and must be purchased by customer if in need of replacement)
- ☐ Check for noise upper and lower bearings.
- ☐ Check physically for damage of pump and power cable.
- ☐ Clean, reset, and check operation of level sensors.
- ☐ Check for correct shaft rotation.
- ☐ Reinstall Flygt pump and check for leakage at the discharge connection.
- ☐ Test of pump operation cycle (if level of liquid in station permits).
- ☐ Check operating of valves and pipes in station.

NOTES:

*1 phase, check line side.

ITT FLYGT CORPORATION

2630 NORTH MARINE DRIVE
PORTLAND,OR 97217 (503) 240-1980 PH (503) 240-3445FX

FIELD SERVICE

CONTACT NAME: MATHEW CUSMA		CONTACT PHONE: 503 286 6944	
INVOICE TO:	SCHNITZER STEEL INDUSTRIES	DATE: 4.15.09	
		CUSTOMER PO: 17675	
		FUS#:	
SERVICE LOCATION:	STORMWATER BASIN P.S.	CUSTOMER#:	
		CREDIT APPROVAL:	
		BY:	DATE:

	SERVICE CONTRACT	MODEL #	IMP	SERIAL #
/	EMERGENCY	3127.180	439	026087
	START UP 14-699848			
	WARRANTY	VOLTAGE 460	HP 10	PUMP HRS

MALFUNCTION REPORTED: MT3PC DEAD

SERVICE PERFORMED: REPLACED CONTROLLER + PM'd PUMPS

QTY	PART NUMBER	DESCRIPTION	UNIT	EXTENDED
X Ø	14-699851 SM 14-699850 MED 14-699852 LG	ENVIRONMENTAL FEE		
3	14-699886-A DATES: 4/14/4/15	MOBILE LABOR		
1	14-410045	MT3PC-3		
			SALES TAX	
			CHARGE TO CUSTOMER	

CUSTOMER, BY YOUR SIGNATURE YOU VERIFY THAT THE WORK DESCRIBED ON THIS SERVICE REPORT HAS BEEN ACCOMPLISHED.

CUSTOMER SIGNATURE: [signature]

CUSTOMER PRINTED LAST NAME: CUSMA

FLYGT TECH: T. CUMMS

SCHN00150825

2630 N. MARINE DRIVE
PORTLAND, OREGON 97217
PHONE: 503 240-1980
FAX: 503 240-3445

ITT FLYGT CORPORATION

Fax

FLYGT®

To: MATHEW COSMA From: TIM CURNS

Fax: 503 971 4694 Pages: 2

Phone: Date: 4.15.03

Re: CC:

☐ Urgent ☑ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

• Comments: THANKS AGAIN FOR YOUR BUSINESS!
T.C.

FLYGT®

SCHNITZEL STEEL STORMWATER P.S. MOD. #3127.180 S/N P1 0260873
P2 0260874
P3 0260875

FLYGT

SCHEDULED PUMP PREVENTATIVE MAINTENANCE INSPECTION AGREEMENT FLYGT CORPORATION

SERVICE - 21 POINT CHECK LIST

- [x] Check electrical condition of insulation on power cable and on all phases of motor. (In Meg Ohms)
P1A 4000 B 4000 C 4000 P2A 4000 B 4000 C 4000 P3A 4000 B 4000 C 4000
- [x] Check for any loose or faulty electrical connections within the pump control panel.
- [x] Measure resistance between stator windings. (In Ohms)
P1AB 2.2 AB 2.2 BC 2.2 P2AB 2.2 AC 2.2 BC 2.2 P3AB 2.2 AC 2.2 BC 2.2
- [x] Check voltage supply between all phases of the electrical control panel. (VAC)
AB 482 AC 480 BC 480
- [x] Check voltage balance between all phases on the load side* of the pump control with pump on. (VAC)
P1AB 480 AC 478 BC 478 P2AB 479 AC 478 BC 477 P3AB 480 AC 478 BC 479
- [x] Check amperage draws on all phases of the pump motor. (In Amps)
P1A 10 B 10 C 10 P2A 10 B 10 C 10 P3A 10 B 10 C 10
- [x] Check condition and operation of motor thermal protectors control system (if so equipped).
- [x] Removal of Flygt pump from lift station for physical inspection.
- [x] Check condition of upper shaft seals (inspect condition of motor housing).
- [x] Check condition and operation of leakage detector (if so equipped).
- [x] Check lower shaft seals (inspect condition of oil).
- [x] Change oil if needed (cost of oil included).
OIL GOOD
- [x] Check for worn or loose impeller.
- [x] Check all impeller wear rings. (Note: Wear rings are not covered by warranty and must be purchased by customer if in need of replacement)
- [x] Check for noise upper and lower bearings.
- [x] Check physically for damage of pump and power cable.
- [x] Clean, reset, and check operation of level sensors.
- [x] Check for correct shaft rotation.
- [x] Reinstall Flygt pump and check for leakage at the discharge connection.
- [x] Test of pump operation cycle (if level of liquid in station permits).
- [x] Check operating of valves and pipes in station.

NOTES: HRS P1 7782 P2 96 P3 8951

*1 phase, check line side.

4/15/05

PMI Agreement.doc

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way, Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

April 27, 2005

Ms. Alicia Voss
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
January through March 2005
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period January through March 2005 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed January through March 2005

- Continued to review site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.

Activities Planned April through June 2005

- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated January through March 2005

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced January through March 2005

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way, Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

April 13, 2007

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
January through March 2007
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period January through March 2007 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed January through March 2007

- Received DEQ's comments on the draft source control evaluation report outline on January 11, 2007.
- Prepared source control evaluation report.
- Submitted quarterly status report to DEQ on January 15, 2007.

Activities Planned April through June 2007

- Submit source control evaluation report.
- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated January through March 2007

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced January through March 2007

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
mieke@bridgeh2o.com

January 15, 2006

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
October through December 2006
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period October through December 2006 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed October through December 2006

- Submitted source control evaluation report outline to DEQ on November 9, 2006.
- Submitted quarterly status report to DEQ on October 15, 2006.

Activities Planned January through March 2007

- Receive and review DEQ comments on the source control evaluation report outline.
- Provide schedule to DEQ for source control evaluation report.
- Begin preparing site source control evaluation report.
- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated October through December 2006

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced October through December 2006

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

October 10, 2006

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
July through September 2006
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period July through September 2006 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed July through September 2006

- Continued to review site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Met with DEQ and EPA on August 3, 2006 to tour the site.
- Met with DEQ on September 28, 2006 to discuss site status and future tasks.

Activities Planned October through December 2006

- Prepare outline of site source control evaluation at the request of DEQ.
- Meet with DEQ to discuss site source control evaluation outline.
- Begin preparing site source control evaluation.
- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated July through September 2006

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced April through June 2006

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
mieke@bridgeh2o.com

July 20, 2006

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
April through June 2006
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period April through June 2006 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed April through June 2006

- Continued to review site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.

Activities Planned July through September 2006

- Meet with DEQ on August 3, 2006 to discuss site status.
- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated April through June 2006

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced April through June 2006

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

SCHNITZER STEEL INDUSTRIES, INC.

3200 NW Yeon Avenue
P.O. Box 10047
Portland, Oregon 97296-0047
Phone: (503) 224-9900
Fax: (503) 323-2804

MEMORANDUM

DATE: August 7, 2006

TO: FILE: Burgard RI/FS
FILE: Portland Harbor

CC: Tom Zelenka
Jay Robinovitz
Jim Goodrich
Jim Jakubiak

FROM: Mathew Cusma

RE: **August 3, 2006 Site Visit by EPA and DEQ Representatives**

On August 3, 2006, representatives from the US EPA and the Oregon DEQ visited the Schnitzer Steel Products Co. – International Terminals site, including the surrounding areas of Burgard Industrial Park. Agency representatives included Chip Humphrey, US EPA Portland Harbor Project Manager; Jim Anderson, DEQ Portland Harbor Project Manager; and Mike Romero, DEQ Source Control Project Manager responsible for the Burgard Industrial Park. Representing SSP were myself and Ross Rieke, Environmental Consultant with Bridgewater Group.

At the time of the visit, the SSP-IT facility was actively loading a ship at Berth 1 in the slip. In addition, the pavement within the footprint of the new shredder area was being removed and trenching was occurring from the new transformer pad into the yard. The shredder was operational after a significant period of down-time for repairs, and was processing the backlog of feed materials that had accumulated. Finally, several dump trucks were waiting onsite to be loaded with shred for offsite shipment.

Agency representatives were stopped by the guard at Gate 5, and asked to park their vehicle. I picked them up and took them to the Scrap Office to sign them in. We then met in a conference room to discuss their expectations for the visit, and to receive a safety briefing.

All three agency representatives stated that their primary purpose for visiting the site at this time was to gain a better understanding of our operations and the size and layout of the facility and adjacent Burgard Industrial Park properties.

Following a safety briefing, we toured the facility in the general progression of an incoming scrap load, including the trailer sweep-off bins along the entry road, the facility signage and the radiation detector. We then toured to the shredder, the downstream system, the shear, the torch-line and portable shears, and the dock – including ship loading operations and the barge scrapping area. Finally, we toured the leased properties in Burgard Industrial Park.

The following issues and questions were raised by the agency representatives for discussion during the visit:

- Stormwater collection and discharge. The agencies asked about the conveyance system, and in particular, the treatment systems in place for stormwater.

- Shredder feedstock. They were surprised by the accumulation of tin and car bodies at the shredder.
- Fugitive dust emissions. Although the facility roadways were actively being sprayed with water during the visit, there were several sources of emissions that the agencies commented on.
    - Foremost was the rust-colored dust that arose during loading of dump trucks with shred. Jim Anderson raised the possibility of using a fog cannon as they do in other bulk transfer facilities.
    - The agencies also noted the multiple areas in which asphalt was being removed, allowing wind-blown particulates.
- Unpaved areas. The agencies asked about the proportion of the property that was unpaved.
- Shredder water treatment system. The agencies were interested in the treatment system's capacity for handling process water and the potential for water to overflow and discharge to the river.
- River bank. They asked to walk the river bank behind the shredder, and were surprised to see the plantings in the rip-rap (required by the Greenway code).
- Bulk conveyor. The agencies were very interested in the bulk loader – frequency of use, materials transferred, etc. They were under the impression that we used it once or twice per month for shred and ASR, and they were unaware of the BMPs we put in place during its operation.
- ASR constituents and management. The agencies asked about the generation and management of ASR. They asked several questions about the RCRA and TSCA status of the ASR, as well as the PCB levels and possible PCB sources.
- Hazardous waste generator status. The agencies asked what our hazardous waste generator status was. They inquired about the sources of hazardous waste that we generate.
- Ship loading operations. The agencies were clearly impressed with the magnitude of the ship loading operations that were ongoing at the time of the site visit. They commented on the method of using large dump skips to maintain positive control of the scrap metal as it passed from shore to ship's hold.
- Cement truck cleanout. During the site visit, cement trucks were being discharged and hosed out in a bin near the maintenance bay. The agencies asked about the practice, but did not seem overly concerned about it. There was no runoff from the bin at the time of the visit.
- Barge scrapping practices. The agencies asked about our barge scrapping practices, what types of barges we receive, and torch cutting over the water. Torching over the water seemed to be the dominating concern.
- Head of the slip. The agencies were very interested in a groundwater seep exiting the bank at the head of the slip. At the time of the visit, the seep was flowing steadily, and no sheen was observed. The agencies took many photos at this location, and noted that most of the stormwater outfalls were either submerged or covered by brush at this location (OF 18, 19, and 20).
- Portland Blast Media. The agency was confused as to the location of Portland Blast Media. They had the PBM facility located at our existing shredder.

- Stormwater received from upgradient properties. Prior to touring the leased properties, the agencies seemed to be unaware that stormwater runoff was received from the Burgard Road right-of-way and the Northwest Container property, and discharged from Outfall 18 at the head of the slip.
- Mill slag. The agencies made note of the fact that we use a lot of mill slag as railroad ballast and surfacing material. They did not indicate that this was inappropriate.

At the conclusion of the visit, the agencies declined to provide their impressions of the facility, or comment on our operational practices. The duration of the site visit was approximately 2 hours and 45 minutes.

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

May 4, 2006

OVERNIGHT MAIL

Kenneth M. Novack
President
Schnitzer Investment Corp.
3200 NW Yeon Avenue
Portland, OR 97296-0047

Re: Portland Harbor Superfund Site

Dear Mr. Novack:

As you may know, the U.S. Environmental Protection Agency ("EPA") is requesting that a number of potentially responsible parties ("PRPs") become cooperating parties in the in-water investigation of hazardous substance contamination in Portland Harbor by entering the existing administrative consent order with EPA, and is encouraging the PRPs to participate in the Lower Willamette Group ("LWG"). The LWG has requested that the Oregon Department of Environmental Quality ("DEQ") similarly provide an opportunity to LWG members and other PRPs to enter a state settlement recognizing in-water work performed under EPA's consent order.

You currently might be working with DEQ to investigate and control sources of contamination to the Willamette River from your upland facility. DEQ appreciates your cooperation and intends to maintain our constructive working relationship. Since DEQ is willing to discuss the settlement requested by the LWG regarding in-water work, and intends that any such settlement also provide for reimbursement of outstanding costs incurred by DEQ at Portland Harbor, DEQ is extending this opportunity to you and other PRPs to participate in negotiation of such a settlement.

This letter therefore serves to notify you of your potential liability for remedial action costs incurred by DEQ in connection with hazardous substance contamination of the Portland Harbor in Portland, Oregon, and provides you with DEQ's demand for payment of those costs. This letter further notifies you of an opportunity to enter negotiations with DEQ and other PRPs to settle your obligation to reimburse DEQ's costs and to become a cooperating party in the ongoing environmental investigation and study of cleanup remedies for the Portland Harbor contamination being overseen by EPA.

The DEQ negotiations will proceed on a short timeline. We therefore request that you give this matter your immediate attention, and, **if you wish to participate in a settlement with DEQ, to please respond by May 19, 2006** in accordance with the instructions set out in this letter.

SCHN00151394

Background

Investigations of sediments and water quality in the Willamette River within the Portland Harbor area have revealed a broad range of hazardous substance contaminants, including but not limited to petroleum hydrocarbons, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, pentachlorophenol, phthalates, dioxins and furans, DDT and other pesticides, and lead, arsenic, mercury, and other metals. These chemicals have entered the river through releases from upland properties, storm water, and upstream sources as a result of industrial, commercial, and shipping activities, urban and agricultural runoff, and sewer outfalls.

In response to this contamination, DEQ undertook a number of measures for the protection of public health and the environment, including but not limited to site discovery and assessment to locate sources of the contamination, development of a Portland Harbor Sediment Management Plan and Sediment Investigation Work Plan to guide investigation of the sediments contamination, consultation and negotiation with PRPs regarding the design and implementation of the plans, coordination with federal agencies and tribes having interests in the Willamette River, and the entry of cooperative agreements and public outreach necessary to these efforts. DEQ undertook these measures pursuant to its authorities under the state environmental cleanup law, ORS 465.200 *et seq.*, and consistent with Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA" or "Superfund").

On December 1, 2000, EPA placed the lower Willamette River and related sources of contamination to the river on the National Priority List pursuant to CERCLA. The final boundaries of the Portland Harbor Superfund Site will be established by EPA when it selects a final cleanup remedy for the site.

DEQ and EPA have agreed to share responsibility for investigation and cleanup of the Portland Harbor Superfund Site. DEQ is responsible for overseeing the investigation and control of contaminant sources to the harbor. EPA is responsible for overseeing the investigation and cleanup of in-water contamination. Each agency also acts as a support agency to the other agency's efforts. EPA is currently administering the performance of an in-water remedial investigation and feasibility study ("RI/FS"), under an Administrative Order on Consent issued by EPA on September 28, 2001. Ten PRPs are signatories to the consent order with EPA. Those consent order parties, along with a reported four other PRPs, have formed what is called the Lower Willamette Group for the purpose of jointly performing or financing the in-water RI/FS. EPA by separate letter dated April 28, 2006 has requested that other PRPs become cooperating parties by signing the consent order. EPA is also encouraging the PRPs to participate in the LWG.

Your Potential Liability

Under the state environmental cleanup law, ORS 465.200 *et seq.*, the following persons may be liable for DEQ remedial action costs: an owner or operator of a facility at or during the time of acts or omissions that result in a release of hazardous substances at the facility; a subsequent owner or operator who knew or reasonably should have known of

SCHN00151395

the release when the person became the owner or operator; an owner or operator who obtains actual knowledge of the release and then transfers ownership or operation without disclosing such knowledge; a person who causes, contributes to, or exacerbates contamination; a person who unlawfully hinders or delays investigations and cleanup; a person who obtains actual knowledge of a release and fails to promptly notify DEQ and exercise due care; and a person who fails to take reasonable precautions against a third party's actions. *See* ORS 465.255. This liability may attach to past owners and operators as well as present. The liability generally is strict and joint and several. Similar liability for DEQ remedial action costs may exist under CERCLA. *See* 42 U.S.C. § 9607. Hazardous substances for which liability may exist under the state environmental cleanup law include CERCLA hazardous substances and oil. ORS 465.200(16).

Based on available information, DEQ has reason to believe that hazardous substances have been or are being released at or from the facility(s) located at 12005 N. Burgard Road; 6529 NW Front Avenue; 9333 N. Time Oil Road; 9449 N. Burgard Way; 3720 NW Yeon Avenue; and 4012-4350 NW Front Avenue, Portland, Oregon, to the Portland Harbor, and that you may be liable for DEQ's remedial action costs under one or more of the grounds enumerated above under the state environmental cleanup law and CERCLA.

The total amount of non-reimbursed past costs incurred by DEQ in connection with remedial activities at Portland Harbor through December 31, 2000 is $1,902,171.31.[1] A summary of these costs is enclosed for you reference as Attachment A to this letter. Pursuant to ORS 465.200 *et seq*. and CERCLA, DEQ makes demand for payment by you of this amount plus all authorized interest.

Settlement Opportunity

As stated above, DEQ intends to commence settlement negotiations with PRPs regarding DEQ's remedial action costs at Portland Harbor and other matters. The settlement would be in the form of a consent judgment entered in state circuit court pursuant to ORS 465.325. The salient provisions of the consent judgment would require that signing PRPs: (a) pay DEQ's outstanding remedial action costs incurred through December 31, 2000; (b) reimburse DEQ's support agency costs under the in-water RI/FS consent order administered by EPA; and (c) perform the in-water RI/FS under the EPA consent order, as demonstrated by a PRP entering the consent order with EPA or otherwise demonstrating that it is helping to fund the RI/FS work (such as through membership in the LWG).

In return, DEQ would provide a covenant-not-to-sue, right of contribution, and contribution protection regarding the same matters.

[1] The EPA consent order requires reimbursement by PRP signatories to the consent order of costs incurred by DEQ as support agency after January 26, 2001. Generally consistent with that date and for ease of accounting, DEQ at this time is offering an opportunity to settle its outstanding costs incurred through December 31, 2000.

SCHN00151396

In addition to these benefits of entering a settlement with DEQ, there are advantages to joining the in-water RI/FS work, including a meaningful role in the development of the cleanup alternatives to be evaluated by EPA when it selects a final remedy for the Portland Harbor Superfund Site. Further, DEQ understands that the LWG is beginning the development of an allocation process among PRPs, in lieu of litigation, for determining shares of investigation and cleanup costs. Participating in this process and the LWG may be in your interest.

DEQ understands that the LWG has invited you and other PRPs to an informational meeting to discuss the LWG's activities to date and your potential participation in performing or funding the in-water RI/FS work. DEQ and EPA representatives intend to participate in portions of that meeting.

The DEQ consent judgment negotiations will proceed on a tight timeline. DEQ intends to complete negotiations so that a proposed consent judgment may be issued for public notice and comment this summer of 2006, and the consent judgment entered with the state circuit court by the fall of 2006. Consent judgment negotiations will be confidential, and, in accordance with ORS 465.325(4)(b), a PRP's participation in negotiations shall not be considered an admission of liability.

If you elect to participate in this settlement opportunity, please provide a written letter of your intent to engage in good faith negotiations, by May 19, 2006, mailed to: Kurt Burkholder, Senior Assistant Attorney General, Oregon Department of Justice, 1515 SW 5th Ave., Suite 410, Portland, OR 97201.

For your information, the mailing list enclosed with this letter as Attachment B shows the other PRPs receiving this notice of settlement opportunity from DEQ.

Questions regarding this letter may be directed to Mr. Burkholder at 971-673-1880, or at kurt.burkholder@doj.state.or.us. If you have any questions regarding the EPA consent order, we suggest you contact Elizabeth McKenna at 206-553-0016. Questions regarding participation in the LWG may be directed to David Ashton at 503-944-7090, or William Joyce at 206-957-5951.

Thank you for your attention to this matter.

Sincerely,

Dick Pedersen
Administrator
Northwest Region

Encl.s

SCHN00151397

ATTACHMENT A

COST SUMMARY
OF
OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
OUTSTANDING REMEDIAL ACTION COSTS
FOR
PORTLAND HARBOR

Prepared by DEQ
April 2006

SCHN00151398

Introduction

This cost summary[1] describes remedial activities undertaken by the Oregon Department of Environmental Quality ("DEQ") in response to releases of hazardous substances to the Willamette River in the area known as Portland Harbor. These activities were undertaken by DEQ pursuant to its removal and remedial action authorities under the state environmental cleanup law, ORS 465.200 *et seq.*, and consistent with the federal Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C § 9601 *et seq.*

This cost summary also describes DEQ costs associated with or attributable to DEQ's remedial activities in Portland Harbor through December 31, 2000 that have not been reimbursed.

Section 1 of this summary provides background regarding Portland Harbor and a general description of DEQ's remedial activities. Section 2 lists the "projects" used by DEQ to record its expenditures in Portland Harbor, as well as total expenditures and outstanding balance. Section 3 provides a narrative description of work per project and a line-item accounting of specific types of expenditures per project. Section 4 describes contractor expenditures.

DEQ maintains direct labor summaries, work logs, payroll records, receipts, and other records to document work performed and expenses incurred. This back-up documentation is not included in this cost summary.

Section 1. Background

Investigations of sediments and water quality in the Willamette River within the Portland Harbor area have revealed a broad range of hazardous substance contaminants, including but not limited to petroleum hydrocarbons, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, pentachlorophenol, phthalates, dioxins and furans, DDT and other pesticides, and lead, arsenic, mercury, and other metals. These chemicals have entered the river through releases from upland properties, storm water, and upstream sources as a result of industrial, commercial, and shipping activities, urban and agricultural runoff, and sewer outfalls.

In response to this contamination, DEQ undertook a number of measures for the protection of public health and the environment, including but not limited to site discovery and assessment to locate sources of the contamination, development of a Portland Harbor Sediment Management Plan and Sediment Investigation Work Plan[2] to guide investigation of the sediments contamination, consultation and negotiation with potentially liable parties regarding the design and implementation of the plans,

[1] This summary may be revised as historical records are further researched and outstanding costs are updated.

[2] This work plan is also referred to in some cost documentation as the "Portland Harbor RI Work Plan" or "RI/FS Work Plan".

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coordination with federal agencies and tribes having interests in the Willamette River, and the entry of cooperative agreements and public outreach necessary to these efforts.

On December 1, 2000, the U.S. Environmental Protection Agency ("EPA") placed the stretch of the Willamette River approximately from River Miles 3.5 to 9.2, and related sources of contamination to river sediments, on the National Priority List ("NPL") pursuant to CERCLA. The final boundaries of the Portland Harbor Superfund Site will be established by EPA when it selects a final cleanup remedy for the site. DEQ and EPA have agreed to share responsibility for investigation and cleanup of the Portland Harbor Superfund Site. DEQ is responsible for overseeing the investigation and control of contaminant sources to the harbor. EPA is responsible for overseeing the investigation and cleanup of in-water contamination. Each agency also acts as a support agency to the other agency's efforts. On September 28, 2001, EPA issued an administrative consent order entered with potentially responsible parties ("PRPs") for the performance of a remedial investigation and feasibility study of in-water contamination. That consent order requires reimbursement by PRP signatories to the consent order of costs incurred by DEQ as support agency on or after January 26, 2001.[3]

Section 2. Projects and Total Costs

This cost summary does *not* include DEQ activities and expenditures regarding Portland Harbor for which it has been reimbursed (e.g., development of Portland Harbor Sediment Management Plan), for site-specific enforcement or investigations at upland facilities constituting sources or potential sources of contamination to the harbor, or for remedial activities undertaken on or after January 1, 2001. For outstanding remedial action costs incurred before January 1, 2001, the following Table 2.1 shows the DEQ projects by number and name, costs incurred and reimbursed per project, and the total cost outstanding. The total amount of DEQ's outstanding remedial action costs for Portland Harbor through December 31, 2000 is $ 1,902,171.31.

Table 2.1 Portland Harbor Projects and Expenditures

PROJECT #	PROJECT NAME	Cost	Received	Owed
73100800	PH Interim Site Assessment Coordination	$98,574.94	$0.00	$98,574.94
73100900	PH Interim Project Support	$531,774.08	$29,322.78	$502,451.30
73101100	PH Interim Consent Decree Negotiation	$17,986.51	$313.04	$17,673.47
73101200	PH Interim Agency & Tribal Coordination	$400,040.38	$29,058.94	$370,981.44
73101300	PH Interim Public Involvement	$105,865.22	$7,992.47	$97,872.75
73101400	PH Interim Fish Workshop	$26,231.08	$0.00	$26,231.08
73163500	PH Interim Sed Invest Workplan Contract	$655,271.10	$0.00	$655,271.10
74166000	Portland Harbor Sediments	$103,217.83	$0.00	$103,217.83
74167000	Portland Harbor Section Admin	$29,897.40	$0.00	$29,897.40
	TOTAL	$1,968,858.54	$66,687.23	$1,902,171.31

[3] For ease of accounting and generally consistent with the date provided in the EPA consent order for reimbursement of DEQ costs, this cost summary describes outstanding DEQ costs through December 31, 2000.

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Section 3. Project Descriptions and Expenditures

This section provides a narrative description and accounting schedule per DEQ project.

In addition to direct project costs, each project's accounting schedule includes charges for "LQD Indirect Cost", "Agency Indirect Cost", and "Cleanup Law Rewrite".

DEQ charges for two types of indirect charges. One is the costs incurred by DEQ's Land Quality Division's environmental cleanup program ("LQD Indirect Cost"). The other is the Land Quality Division's share of DEQ agency-wide costs ("Agency Indirect Cost"). Examples of indirect charges are: office space; equipment and supplies; non-site specific activities of project staff, such as training and program administrative activities; clerical, computer network, time accounting, invoicing and grants management; management and supervision; development of technical guidance and policies; and a share of DEQ centralized services, such as accounting, human resources, and information systems.

DEQ sets the LQD Indirect Cost rate by calculating the pool of indirect program costs and dividing by the Personal Services charged directly to sites. The Agency Indirect Cost is a rate negotiated annually with EPA. For the time periods involved, the LQD Indirect Cost rate varied, by year, from 182 to 184% of Personal Services, and the Agency Indirect Cost rate averaged about 19.2%.

Each of the Portland Harbor projects also includes a "Cleanup Law Rewrite" charge. This was a surcharge authorized by the Oregon Legislature for the recovery of costs incurred for certain program development, rulemaking, and other administrative actions. *See* ORS 465.333. The surcharge, 12% of personal service charges, was assessed from the beginning of 1996 through December 2000.

Each of the preceding charges was based on generally-accepted accounting practices.

73100800 PH Interim Site Assessment Coordination. In 1998, DEQ initiated a site discovery and site assessment process, including evaluation of available information regarding activities and conditions in Portland Harbor to identify likely upland sources of contamination threatening the river. This project account recorded DEQ costs incurred for these activities from July 1, 1999 through October 3, 2000.

Project Expenditures	Costs
Personal Services	$22,360.45
Attorney General	25,821.00
Travel	6.61
Services and Supplies	89.84
Contract Payments	1,766.40
Capital Outlay	0.00
Agency Indirect Cost	4,717.66
LCD Indirect Cost	41,129.74

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Cleanup Law Rewrite	2,683.24
Total Expenditures	$98,574.94

73100900 PH Interim Project Support. General activities supporting the Portland Harbor project. Work tasks included but were not limited to: coordinating with DEQ's Cleanup Program and Policy Development Section on related legislative issues; preparing and presenting briefings to DEQ senior managers; coordinating with DEQ's Business Office on general financial matters; developing general upland enforcement strategies; undertaking inter-agency coordination; and providing overall project support that was not directly related to other project activities. This project account recorded DEQ costs incurred for these activities from July 1, 1999 through April 30, 2001, but the amounts shown below have been adjusted to exclude costs incurred on or after January 1, 2001. The amounts indicated below also do not reflect $29,322.78 in project payments received on March 31, 2003 from the Lower Willamette Group (see Table 2.1).

Project Expenditures	Costs
Personal Services	$159,407.96
Attorney General	17,373.11
Travel	2,156.13
Services and Supplies	1,969.75
Contract Payments	6,480.51
Capital Outlay	0.00
Agency Indirect Cost	32,470.63
LQD Indirect Cost	292,787.03
Cleanup Law Rewrite	19,128.96
Total Expenditures	$531,774.08

73101100 PH Interim Consent Decree Negotiation. Developing and negotiating a proposed consent decree with PRPs, in support of a state-lead investigation and cleanup of Portland Harbor before NPL listing. This project account recorded DEQ costs incurred for these activities from July 7, 1999 through February 22, 2001, but the amounts shown below have been adjusted to exclude costs incurred on or after January 1, 2001. The amounts indicated below also do not reflect $313.04 in project payments received on March 31, 2003 from the Lower Willamette Group (see Table 2.1).

Project Expenditures	Costs
Personal Services	$2,556.31
Attorney General	9,949.50
Travel	0.00
Services and Supplies	0.00
Contract Payments	0.00
Capital Outlay	0.00

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Agency Indirect Cost	502.14
LCD Indirect Cost	4,671.79
Cleanup Law Rewrite	306.77
Total Expenditures	$17,986.51

73101200 PH Interim Agency & Tribal Coordination. DEQ met and coordinated with Tribes and state and federal resource agencies regarding a state-lead investigation and cleanup of the Portland Harbor before NPL listing. In relation to the NPL listing, DEQ negotiated and entered the February 2001 Memorandum of Understanding with EPA, Tribes, and state and federal agencies, and provided review of drafts of the 2001 EPA consent order and scope of work for that order. This project account recorded DEQ costs incurred for these activities from July 1, 1999 through April 30, 2001, but the amounts shown below have been adjusted to exclude costs incurred on or after January 1, 2001. The amounts indicated below also do not reflect $26,950.79 in project payments received on March 31, 2003 from the Lower Willamette Group. Nor do they include a payment of $2,108.15 received on June 24, 2003 from the Portland Harbor Treasury Fund (see Table 2.1).

Project Expenditures	Costs
Personal Services	$85,884.53
Attorney General	101,872.22
Travel	7,412.07
Services and Supplies	1,258.93
Contract Payments	17,788.70
Capital Outlay	0.00
Agency Indirect Cost	17,801.39
LCD Indirect Cost	157,716.41
Cleanup Law Rewrite	10,306.13
Total Expenditures	$400,040.38

73101300 PH Interim Public Involvement. Developing and implementing public involvement plan; developing a list of public stakeholders and engaging those stakeholders; developing community support; developing press releases and fact sheets; developing a DEQ Portland Harbor web page; complying with state public records laws; meeting with community groups, media, schools, and other interested parties; participating in related conferences, seminars, and panel discussions. This project account recorded DEQ costs incurred for these activities from July 6, 1999 through April 30, 2001, but the amounts shown below have been adjusted to exclude costs incurred on or after January 1, 2001. The amounts indicated below also do not reflect $7,992.47 in project payments received on March 31, 2003 from the Lower Willamette Group (see Table 2.1).

Project Expenditures	Costs

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Personal Services	$24,517.92
Attorney General	0.00
Travel	1,613.73
Services and Supplies	9,504.74
Contract Payments	17,289.36
Capital Outlay	0.00
Agency Indirect Cost	5,021.93
LCD Indirect Cost	44,975.36
Cleanup Law Rewrite	2,942.18
Total Expenditures	$105,865.22

73101400 PH Interim Fish Workshop. Planning, coordinating, and hosting the "Technical Workshop on Assessing Contaminant Threats to Fish" in Portland on January 11 and 12, 2000. The workshop was held in support of the development of Portland Harbor Sediment Investigation Work Plan. The purpose of the workshop was to consider the use of bioindicators for evaluating threats posed to fish from sediment-related contaminants. This project account recorded DEQ costs incurred for these activities from August 23, 1999 through March 9, 2000.

Project Expenditures	Costs
Personal Services	$5,275.30
Attorney General	0.00
Travel	4,293.16
Services and Supplies	5,206.09
Contract Payments	0.00
Capital Outlay	0.00
Agency Indirect Cost	1,116.94
LQD Indirect Cost	9,706.56
Cleanup Law Rewrite	633.03
Total Expenditures	$26,231.08

73163500 PH Interim Sed Invest Workplan Contract. Developing the Portland Harbor Sediment Investigation Work Plan, including meetings and plan review with a Technical Exchange Workgroup and Stakeholders Advisory Group. This project account recorded DEQ costs incurred for these activities from April 12, 1999 through December 31, 2000.

Project Expenditures	Costs
Personal Services	$77,987.18
Attorney General	3,843.00
Travel	6,460.63

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Services and Supplies	4,654.61
Contract Payments	393,074.18
Capital Outlay	0.00
Agency Indirect Cost	16,416.88
LQD Indirect Cost	143,476.13
Cleanup Law Rewrite	9,358.49
Total Expenditures	$655,271.10

74166000 Portland Harbor Sediments. Evaluating and analyzing recent and historical sediment data. This work included development of "baseline" (i.e., ambient) contaminant concentrations in sediment to support development of the Portland Harbor Sediment Management Plan and the Portland Harbor Sediment Investigation Work Plan. This project account recorded DEQ costs incurred for these activities from August 11, 1998 through November 30, 1998.

Project Expenditures	Costs
Personal Services	$31,723.06
Attorney General	1,556.30
Travel	0.00
Services and Supplies	1,028.70
Contract Payments	0.00
Capital Outlay	0.00
Agency Indirect Cost	5,780.89
LCD Indirect Cost	59,322.12
Cleanup Law Rewrite	3,806.76
Total Expenditures	$103,217.83

74167000 Portland Harbor Section Admin. General administrative duties supporting the Portland Harbor project. Work tasks included but were not limited to: general administrative support (e.g., mailing, filing, meeting coordination); coordination of upland work with sediment work; general internal DEQ coordination (e.g., financial management, reviewing invoices); and Portland Harbor staff admin time. This project account recorded DEQ costs incurred for these activities from August 9, 1999 through April 30, 2001, but the amounts shown below have been adjusted to exclude costs incurred on or after January 1, 2001.

Project Expenditures	Costs
Personal Services	$9,559.14
Attorney General	0.00
Travel	0.00
Services and Supplies	0.00
Contract Payments	0.00
Capital Outlay	0.00
Agency Indirect Cost	1,793.53

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LCD Indirect Cost	17,397.63
Cleanup Law Rewrite	1,147.10
Total Expenditures	$29,897.40

Section 4. Summary of Contracted Work Expenditures

This section provides information on contract work related to the projects involving DEQ contractor costs. DEQ incurred contract expenditures for five of the above projects:

73100800: PH Interim Site Assessment Coordination
73100900: PH Interim Project Support
73101200: PH Interim Agency & Tribal Coordination
73101300: PH Interim Public Involvement
73163500: PH Interim Sediment Investigation Workplan Contract

Table 4.1 provides a summary, by project and contractor, of DEQ contract expenditures associated with Portland Harbor through December 31, 2000 that have not yet been reimbursed.

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Table 4.1

Project #	Amount	Paid to	Contract # Description
73100800	$1,766.40	Personnel Department *	Temporary Employee
Total	**$1,766.40**		
73100900	$6,326.91	Enviroissues	Contract # 111-00
73100900	$ 153.60	Personnel Department *	Temporary Employee
Total	**$6,480.51**		
73101200	$3,763.20	Personnel Department *	Temporary Employee
73101200	$2,766.60	Conf. Tribes Grand Ronde	Reimburse: ABR, Inc.
73101200	$11,412.93	Enviroissues	Contract # 111-00
Total	**$17,942.73**[4]		
73101300	$4,608.00	Personnel Department *	Temporary Employee
73101300	$8,565.89	Enviroissues	Contract # 140-99
73101300	$4,115.47	Enviroissues	Contract # 111-00
Total	**$17,289.36**		
73163500	$768.00	Personnel Department *	Temporary Employee
73163500	$34,800.08	Enviroissues	Contract # 140-99
73163500	$240,314.29	Ecology & Environment (E&E)	Contract # 88-97-18
73163500	$40,272.79	Avocet Consulting	Contract # 046-00
73163500	$59,976.41	EVS Consulting	Contract # 047-00
73163500	$16,942.61	Enviroissues	Contract # 111-00
Total	**$393,074.18**		

* Note: "Personnel Department" is a temporary employment agency.

The following are excerpted Scopes of Work for the work conducted by Enviroissues, EVS Consulting, Avocet Consulting, and Ecology & Environment.

Scope of Work for Enviroissues Contract # 111-00

"*WORK TO BE PERFORMED*

Specific assignments and tasks authorized under this contract will be issued through a task order from the DEQ project officer to the contractor. The task order will specify the work to be performed, the deliverables to be provided to DEQ, the estimated budget for the work and a schedule for completion of the task. Work required under this contract will be performed on an hourly basis, based on hourly rates agreed to in Exhibit C. DEQ

[4] This total amount as of December 31, 2000 was $17,788.70.

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approval is required before Contractor uses personnel other than identified in Exhibit C. Contractor must provide the following information before additional personnel are assigned to the project: Hourly rate and the type of work each person will perform.

Work required under this contract will be similar in nature to the type of work described below:

- *Provide support to DEQ and their technical contractors in arranging and facilitating meetings among the various stakeholders involved in, or affected by, Portland Harbor.*
- *Provide public involvement and community outreach support, including, but not limited to, developing fact sheets and other educational material, organizing and facilitating public meetings and reviewing and revising the Portland Harbor Public Involvement Plan.*
- *Assist DEQ and their technical contractors with project scheduling.*
- *Assist DEQ by arranging for editing, production and distribution of technical documents as needed.*
- *Provide support to DEQ and their technical contractors in managing action items and comments received during work group meetings, advisory group meetings, and public comment periods, including preparing comment responsiveness summaries as needed;*
- *Provide support to DEQ and their technical contractors with the coordination of technical and policy issues related to sediment investigations;*
- *Provide advice and support for setting strategic direction, decision making, and policy analysis in the following areas:*
- *Team building and coordination of regulatory, industry, tribal and community viewpoints and interests relating to the technical and policy issues regarding the investigation and remediation of contaminated sediments.*
- *Coordination with federal and state natural resource trustee agencies;*
- *Coordination with Native American Tribes*
- *Coordination with federal and state agencies including EPA and U.S. Army Corps of Engineers;*
- *Coordination of funding issues, including identifying potential funding options and assisting with negotiations on funding agreements."*

<u>Scope of Work for Enviroissues Contract # 140-99</u>

"WORK TO BE PERFORMED

Contractor shall finalize the PHSMP, format a final document into PageMaker, and support DEQ in various areas of policy development in preparation for the June 29, 1999 RDT. DEQ will make office space for one individual and computer access available to the selected contractor at the discretion of the contractor. The contractor will provide the following support services, as well as others as requested by DEQ:

(1) Ensure that the final PHSMP and Appendices, formatted in PageMaker, contains

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the following elements:

- *(a) Sampling and Analysis Protocols;*
- *(b) Development of Freshwater Sediment Screening Levels;*
- *(c) Risk Assessment Protocol;*
- *(d) Public Involvement*
- *(e) Natural Resource Agency and Tribal Government Coordination;*
- *(1) Sediment Dredging Coordination;*
- *(g) Site Discovery;*
- *(h) Enforcement Strategies;*
- *(i) Funding Strategies; and*
- *(j) Harbor-Wide and Site Specific Schedules*

(2) Support DEQ in the public comment period that ends May 19, 1999.
(3) Develop a complete comment responsiveness summary, and finalize the PHSMP responsiveness summary.
(4) Develop schedules for the final production, review, and editing of the PHSMP.
(5) Ensure that action items resulting from the public comment period are documented, tracked, and appropriately addressed in the PHSMP.
(6) Assist DEQ in preparation of the June 29, 1999 RDT meeting, which would include providing management and policy support on natural resource trustee and tribal coordination, funding strategies and enforcement strategies."

Scope of Work for EVS Contract # 047-00

"WORK TO BE PERFORMED

It is currently estimated that the contractor shall provide approximately 500 hours of technical assistance support to DEQ related to the review and revision of the Portland Harbor Group's Remedial Investigation Work Plan. This work plan will cover tasks described in the SAM, PHSMP Appendix C [SOW Attachment 13]. Thus, the contractor will he required to technically review and provide written comments on a work plan that will include, but not necessarily be limited to, the following tasks:

(1) SUPPORTING INVESTIGATIONS

- *(a) Benthic surveys will be conducted to provide information on the status of benthic communities in the lower Willamette River and on the usefulness of such surveys for assessing risks at individual sites or Harbor-wide,*
- *(b) Ecological characterization surveys will be conducted to provide data regarding the types and abundance of fish and wildlife within Portland Harbor. Such information will he used to: verify or alter the choice of assessment endpoints to be carried through the ecological risk assessment, evaluate how fish and wildlife may be exposed to chemicals present in sediment, and potentially refine Harbor wide exposure scenarios used in tissue guidelines and biota-sediment accumulation functions.*
- *(c) A human activity and fish consumption survey will examine recreational*

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and subsistence fishing, beach and water-contact recreation, and water-contact occupational scenarios within the Harbor. The fish consumption survey will consider recreational (sport anglers), subsistence, and tribal fishing populations.

(d) A sediment transport and fate investigation will be conducted to expand our understanding of how sediments are transported into and within the Portland Harbor for the purposes of assessing risk and evaluating the efficacy of various remedial alternatives.

(2) SEDIMENT AND BIOTA SAMPLING AND ANALYSIS

(a) Sediment chemistry, sediment bioassay, and fish/shellfish tissue data from sample locations in reference areas and areas of the Harbor outside known sites will be used to assess the nature and extent of contamination on a Harbor-wide basis, characterize impacts to the benthic community, and provide data to SEDQUAL. to support the ongoing development of sediment quality guidelines.

(b) Supplemental chemistry and bioassay data for the calculation of certain sediment quality guidelines may need to be obtained from specific sites, those with particular concentrations of contaminants or physical sediment characteristics.

(3) RISK ASSESSMENTS

(a) Human health and ecological risk assessments will be performed to determine whether there are unacceptable risks (i.e.. exceedance of target tissue levels) to humans or wildlife from consumption of fish, shellfish, or macroinvertebrates taken from the Harbor, or unacceptable risks (i.e., exceedance of tissue screening concentrations or other injury criteria) to fish from exposure to contaminated sediment.

The work to be performed will also include preparation for, attendance at, and responses to action items resulting from the meetings (all planned to be held in or near Portland, Oregon) including approximately 10 weekly technical exchange meetings with DEQ staff and those preparing the remedial investigation work plan."

Scope of Work for Avocet Contract # 046-00

"WORK TO BE PERFORMED

It is currently estimated that the contractor shall provide approximately 500 hours of technical assistance support to DEQ related to the preparation of a detailed work plan for the programmatic tasks generally described below and more completely in the SAM, PHSMP Appendix U [SOW Attachment B]. DEQ currently anticipates technical assistance support that will likely include following tasks:

(1) Preparation of a work plan fully describing the information and procedures required for development of:

(a) sediment quality guidelines, (b) target tissue levels for human health, (c) target tissue levels for wildlife, (d) tissue screening concentrations for fish, (e) a harbor-wide biota-sediment accumulation function, and (f) any fish injury

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assessment methods required by the natural resource trustees. This will include preparation of draft sections of the work plan.

(2) *Maintaining and upgrading the SEDQUAL data base, training DEQ staff in the efficient use of the data base, and extracting specific information from the data base for use in developing both the Programmatic and Remedial Investigation Tasks Work Plans.*

(3) *Establishing performance standards for suitable reference areas then, using whatever performance standards are established, identifying candidate reference areas through a review of existing sediment data, land uses, and other available information for areas in the lower Willamette River above and below Portland Harbor, and in the Columbia River*

The work to be performed will also include preparation for, attendance at, and responses to action items resulting from the following meetings (all planned to be held in or near Portland, Oregon):

(1) *Approximately 10 weekly technical exchange meetings with DEQ staff and those preparing the remedial investigation work plan.*

(2) *Approximately 5 weekly stakeholder technical workgroup meetings involving representatives from DEQ, U.S. EPA, Native American tribes, natural resource trustees, local governments, representatives of the Portland Harbor Group, and other stakeholders.*

(3) *Approximately 6 public meetings and public outreach events.*

Specific activities authorized under this contract will be issued through a letter from the DEQ Project Officer to the contractor. The letter will specify the work to be performed, the deliverable to be provided to DEQ, the estimated budget for the work, and a schedule for completion of the work. Note that the Programmatic Tasks Work Plan deliverable will be subject to approval by DEQ, to a review of its technical adequacy by a stakeholder technical workgroup convened for this purpose by DEQ, and to a public comment process."

Scope of Work for Ecology and Environment Task Order No 88-97-18

"WORK TO BE PERFORMED

Task 1: Project Administration. *The Contractor will perform general project administration to manage the technical and financial details of this project, including monthly project progress reports, invoices, and coordinating staff resources. Costs for preparation of a budget and assumptions proposal (BAP), with one revision, are included in this task. Because the scope of work is not firm at this time and level-of-effort (LOE) may change depending on input from various meetings, the Contractor will meet with DEQ in November and January to assess the budget status. The Contractor may have to prepare two BAPs as a result of the budget review meetings.*

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Task 2: Project Scoping. *The Contractor will work cooperatively with DEQ to develop an outline/table of contents which will form the backbone of the work to be done for the PHSIWP (Task 3). This entails reviewing the Portland Harbor Sediment Management Plan, including its Sediment Assessment Methodology (Appendix G). The Contractor will also consult U.S. EPA's RI framework, in coordination with the PHSMP, when developing the scope of the RI portion of the PHSIWP. The Contractor will also review related documents that were used to prepare the PHSMP, including investigations from current DEQ cleanup sites and the 1997 EPA/DEQ Harbor sediment investigation. It should be assumed that these documents will be available from DEQ and that the data from earlier investigations have already been compiled into a database (SEDQUAL) that will be provided to the Contractor.*

Task 3: Remedial Investigation Work Plan. *The RI Work Plan consists of several tasks to be completed by the Contractor, as described below. These tasks correspond to the draft table of contents [SOW Attachment C] that was developed by DEQ and which will be revised as part of Task 2. The Contractor should allow for two versions of the RI Work Plan: a DEQ-internal review and a formal draft. The Contractor should assume that one hard copy of the RI Work Plan, including figures and tables, and an MS-Word compatible electronic file of all text, tables, and figures will be delivered to DEQ.*

Task 3.1: RI Work Plan. *This task involves preparation of the main body of the RI Work Plan, and includes the following:*

- *Portions of the Initial Evaluation, including a summary of existing data and information on individual sites. The Contractor should assume that most of this section will be provided by DEQ from the PHSMP and subsequent Strategy Recommendations for new DEQ cleanup sites, and that this information can be used with little or no modification. It is used to support the rationale for supplemental sampling at current DEQ cleanup sites. The Contractor will evaluate the previous investigations and data available from the Task 2 to assist DEQ with preparation of the Initial Evaluation.*
- *Sediment Investigation Rationale. The Contractor will use the framework for the Sediment Investigation Rationale presented in the PHSMP and the information derived from the Initial Evaluation to develop more detailed and specific rationales for the RI work in harbor and reference areas, and supplemental data collection at specific sites.*
- *The Contractor should assume the work plan text related to the Programmatic Tasks will be provided by DEQ or other contractors and that the Contractor will not perform work on these tasks.*
- *Remedial Investigation Tasks, including work plans for ecological characterization surveys, reference area selection, human use characterization surveys, sampling and analysis, and the data management plan. The Contractor should expect that maximum*

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use will be made of appropriate existing text wherever possible and that material such as existing non-proprietary procedures as identified by the Contractor) will be incorporated by reference. The Contractor should assume that information necessary for the completion of this portion of the work plan will be supplied by DEQ or other contractors in a timely manner.

- *Sediment Evaluation, including the baseline human health and ecological risk assessment work plans as well as Remedial Investigation reporting tasks.*

For each of these work plan components, the document will be prepared in three stages, as follows:

(1) *Preparation of a strategy and rough draft for presentation at a scheduled technical exchange workgroup (TEW) meeting.*
(2) *Following discussion and comments from the workgroup, DEQ will provide direction on specific changes to be made to the rough draft. The Contractor will revise the rough draft, then prepare a complete draft of the text as the DEQ internal draft of that portion of the RI Work Plan.*
(3) *Following receipt of DEQ comments on the internal draft, a draft version of the document will be prepared. The Contractor should assume that no formal response to comment letter will be needed following either technical exchange meetings or the DEQ review of the internal draft.*

Task 3.2: Field Sampling Plan (FSP). *The FSP will present details of sampling procedures, including information on sample locations, types, and analytical parameters for harbor area, reference area, and supplemental site samples. The FSP will generally follow federal and regional CERCLA guidance with modifications to incorporate the goals of the PHSMP, as to be determined in discussions between the Contractor and DEQ. The FSP will be developed in three stages, as described for the main Work Plan in Task 3.1. DEQ's programmatic task and oversight contractors may provide input to the FSP. The Contractor should assume that material provided for inclusion in the FSP will be delivered on schedule and without major omissions or errors.*

Task 3.3: Quality Assurance Project Plan (QAPP). *This task involves preparation of the QAPP component of the PHSIWP. The QAPP will be prepared in accordance with the December 1998 EPA Region 10 Expanded Guidance for Preparing Quality Assurance Project Plans with some modifications to incorporate the goals of the PHSMP, as to be determined in discussions between the Contractor and DEQ. The QAPP will include discussion of quality assurance objectives, sampling and custody procedures, analytical procedures, quality control requirements, data validation procedures, and other topics as required by CERCLA guidance. The QAPP will be developed in three stages, as described for the main Work Plan in Task 3.1. The Contractor should assume that the QAPP will need to potentially function as a stand-*

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alone document for review by EPA Region 10 Quality Assurance Management Section and that it will need to cover non-routine analyses, such as tissue sampling, benthic toxicity tests, and bioaccumulation tests

Task 3.4: Sediment Fate and Transport. *The Contractor should include costs to attend two 3-hour meetings and perform subcontractor oversight. The meetings will be led by DEQ, in the form of an informal "Sediment/Contaminant Transport" workgroup. This workgroup will include several sediment transport and fate experts to discuss the specific data needs for Portland Harbor. The Contractor should include costs for any of their subcontractor(s) to attend two meetings and prepare a work plan recommendations memorandum.*

Task 4: Implementation Schedule and Cost Estimate. *The Contractor will prepare an attachment to the PHSIWP to describe the potential schedule and costs for implementation of the remedial investigation. This estimate will be as detailed as possible so as to provide the most reasonable estimates of costs to the public and the stakeholders; target goals for budget estimation are ±50% of total costs. Because some significant portions (such as analytical costs) of the budget are likely to remain uncertain, the cost estimate may be presented as a range of reasonable low-end, most likely, and reasonable high-end estimates. Analytical cost estimates should be assumed to be at the suite-level and should not include non-routine analytical services. The Schedule and Cost Estimate will be developed in three stages, as described for the main Work Plan in Task 3.1.*

Task 5: Project Meetings. *The Contractor personnel will attend project meetings as described below.*

Task 5.1: Technical Exchange Meetings. *The purpose of the Technical Exchange Workgroup (TEW) meetings is to discuss specific technical issues relating to the project as outlined by DEQ. The Contractor will prepare a brief presentation on the principal topic for five (5) meetings: 1) Human use and ecological characterization; 2) Ecological characterization for benthic community and fish; 3) FSP and QAPP; 4) Human health and ecological risk assessment; and 5) Implementation schedule and cost estimate. The Contractor should assume that one key person, preferably the Contractor's designated project manager, will attend all eight (8) meetings. In addition, the Contractor should assume that at least one of their other key personnel or technical specialists will participate in five of the eight TEW meetings.*

Task 5.2: Stakeholder Advisory Group (SAG) Meetings. *The purpose of the eight (8) Stakeholder Advisory Group (SAG) meetings is to discuss policy, legal, and technical issues relating to the project with stakeholders. The Contractor will not make a formal presentation at these meetings; however, the Contractor should assume that their project manager will attend four (4) of the eight (8) proposed SAG meetings to answer technical questions from stakeholders about the project and to support DEQ, as needed.*

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Task 5.3: Trustee Meetings. *The Contractor should assume that their project manager will attend four (4) Trustee Meetings held in Portland, Oregon and four (4) meetings in Seattle, Washington.*

Task 6: Final SI Work Plan. *For the purposes of budgeting, the Contractor should identify a task (Task 6) to be performed beyond the proposed end date (March 31, 2000) of this task order and their estimated costs. This task will not incur charges until directed by DEQ and a task order amendment is issued.*

Task 6.1: Project Administration. *The Contractor will perform general project administration to manage the technical and financial details of this project from April 1 through June 30, 2000, including monthly project progress reports, invoices, and coordinating staff resources.*

Task 6.2: Final SI Work Plan. *In response to public comments, the Contractor will prepare formal response and provide changes to the text of the RI work plan component of the PHSIWP. Because of the uncertainty associated with the number of comments to be generated and the level of effort involved, the Contractor should initially assume that 200 technical, production, and support hours would be required to respond to public comments. DEQ and the Contractor may revise this budget estimate pending receipt and review of public comments following the close of the public comment period on May 31, 2000.*

Task 6.3: Public Outreach Meetings and Public Involvement Events. *The Contractor is advised that public involvement activities will be led by another DEQ contractor, but should assume that its project manager will attend each of the six (6) public meetings. The Contractor will not make formal presentations at these meetings; rather, but will be in attendance to answer specific questions from the public. The Contractor should assume these meetings will be held in or near Portland, Oregon."*

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ATTACHMENT B

DEQ MAILING LIST
FOR PORTLAND HARBOR
NOTICE LETTER MAY 2006

1. ACF Industries, LLC

   12160 NW St. Helens Road

   Roger Wynkopp
   President
   ACF Industries, LLC
   101 Clark Street
   St. Charles, MO 83301

2. Air Liquide America Corporation

   6529 NW Front Avenue

   Kevin Feeney
   Vice President and General Counsel
   Air Liquide America Corporation
   2700 Post Oak Boulevard
   Suite 1800
   Houston, TX 77056

3. ARCO

   9930 NW St. Helens Road

   Ralph J. Moran
   Environmental Portfolio Manager
   Atlantic Richfield Company
   c/o BP West Coast Products
   6 Centerpoint Drive
   Suite 727
   La Palma, CA 90623

4. Arkema Group

   Fred Wolf
   Legacy Site Services LLC
   2901 Taylor Way
   Tacoma, WA 98421

Cc: Claudia Powers
Ater Wynne LLP
222 SW Columbia, Suite 1800
Portland, OR 97201

5. Beazer East, Inc./Beazer Materials & Services, Inc.

10350 Time Oil Road

Jill M. Blundon
President
Beazer East, Inc./Beazer Materials & Services, Inc.
1 Oxford Centre #3000
Pittsburgh, PA 15219

6. BNSF Railway Company

Bruce Sheppard
BNSF Railway Company
2454 Occidental Avenue S.
Suite 1A
Seattle, WA 98124-1105

Cc: John Ashworth
Bullivant Houser Bailey
888 SW 5th Avenue #300
Portland, OR 97204

7. Brix Maritime Towing Co.

9030 NW St. Helens Road

Steve T. Scalzo
President
Brix Maritime Towing Company, Inc.
660 W. Ewing Street
Seattle, WA 98119

Frank Williamson
President
Foss Maritime Company
660 W. Ewing Street
Seattle, WA 98119

8. Calbag Metals Company

4927 NW Front Ave;12005 N. Burgard Rd; 2495/2550 N.W. Nicolai Street

Chuck Gleason
Calbag Metals Company
Director of Operations
2495 NW Nicolai Street
P.O. Box 10067
Portland, OR 97296-0067

9. CertainTeed Corporation

6350/6080 NW Front Avenue

Lauren Alterman
Senior Counsel
CertainTeed Corporation
750 East Swedesford Road
Valley Forge, PA 19482

10. Chevron U.S.A., Inc.

Richard F. Chatfield-Taylor
Chevron U.S.A., Inc.
6001 Bolinger Canyon Road, Room T3234
San Ramon, CA 94583-2324

Chevron U.S.A., Inc.
c/o The Prentice Hall Corporation
285 Liberty Street, NE
Salem, OR 97301

11. Christenson Oil

3821 NW St. Helens Road

John Horstman
Vice President of Operations
Christenson Oil
3865 N.W. St. Helens Road
Portland, OR 97217

12. City of Portland

Dean Marriot
Director, Bureau of Environmental Services
1120 SW Fifth Avenue

Suite 1000
Portland, OR 97204

Cc: Jan L. Betz
City of Portland
1120 SW Fifth Ave.
Suite 1012
Portland, OR 97204-1965

13. ConocoPhillips

Martin A. Cramer
ConocoPhillips
5528 NW Doane Avenue
Portland, OR 97210

Derrick Vallance
ConocoPhillips
600 N. Dairy Ashford
Houston, TX 77079

14. Crawford Street Corporation

8424, 8504, and 8524 N. Crawford Street

Robert W. Philip
President
Crawford Street Corporation
3200 NW Yeon Ave
Portland, OR 97296-0047

15. ExxonMobil Refining & Supply Company

9420 NW St Helens Road

Brian J. Harrison
Major Projects Manager
Global Remediation
ExxonMobil Refining &
Supply Company
607 ExxonMobil Road
Billings, MT 59101

16. FMC Corporation

4012-4350 and 4850 NW Front Avenue

Andrea E. Utecht
Vice President, General Counsel and Secretary
FMC Corporation
1735 Market Street
Philadelphia, PA 19103

John F. Stillman
Environmental Counsel
FMC Corporation
1735 Market Street
Philadelphia, PA 19103

17. Foss Maritime Co.

9030 NW St. Helens Road

Steve T. Scalzo
President
Brix Maritime Towing Company, Inc.
660 W. Ewing Street
Seattle, WA 98119

Frank Williamson
President
Foss Maritime Company
660 W. Ewing Street
Seattle, WA 98119

18. Front Avenue Corporation

4950, 5034, and 5200 NW Front Avenue

Jay N. Zidell
President
Front Avenue Corporation
3121 SW Moody Avenue
Portland, OR 97239

19. Gould Electronics

5909 NW 61st Avenue

James F. Cronmiller
Director, Corporate Environmental Affairs

Gould Electronics, Inc.
35129 Curtis Blvd.
Eastlake, OH 44095

20. Gunderson LLC

Ken Stephens
Tonkon Torp LLP
888 SW 5th Avenue, Ste 1600
Portland, OR 97204

Cc: Max M. Miller, Jr.
Tonkon Torp LLP
888 SW 5th Avenue, Ste 1600
Portland, OR 97204

21. Hendren Tow-Boat Co., Inc.

8444 NW St. Helens Road

Floyd G. Hendren
Hendren Tow-Boat Co., Inc.
12751 NW Springville Road
Portland, OR 97229

22. Kinder Morgan

Nancy E. Van Burgel
Kinder Morgan, Inc.
370 Van Gordon Street
P.O. Box 281304
Lakewood, CO 80228-8304

Cc: Mark W. Schneider
Perkins Coie LLP
1201 Third Avenue
40th Floor
Seattle, WA 98101-3099

23. Langley-St. Johns Partnership; Brix Dearmond, LLC

8940/9070 N. Bradford Street

Peter J. Brix
Langley-St. Johns Partnership
14020 SE Johnson Road #201

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Milwaukee, OR 97269

Peter J. Brix
Brix Dearmond, LLC
14020 SE Johnson Road #201
Milwaukee, OR 97269

24. Mar Com Holdings, LLC

8940 N. Bradford Street

Tom R. Maples
Mar Com Holdings, LLC
14815 NE 186th Street
Brush Prairie, WA 98606

25. McCall Oil and Chemical Corporation

5480, 5540-5724 NW Front Street

James Charriere
President
McCall Oil and Chemical Corporation
5480 N Front Street
Portland, OR 97210

26. NL Industries, Inc.

5909 NW 61st Avenue

Robert D. Graham
Vice President, Secretary and General Counsel
NL Industries, Inc.
5430 LBJ Freeway
Suite 1200
Dallas, TX 75240-2697

27. Northwest Pipe Company

12005 N. Burgard Way

Brian W. Dunham
President
Northwest Pipe Company
200 SW Market Street
Suite 1800

SCHN00151422

Portland, OR 97201

28. NW Natural

Robert Wyatt
NW Natural
220 NW 2nd Ave.
Portland, OR 97209

Cc: Patty Dost
Schwabe, Williamson & Wyatt, P.C.
1211 SW 5th Avenue, Suite 1900
Portland, OR 97204

29. Oregon Steel Mills, Inc.

Mike Petitt
Oregon Steel Mills, Inc.
14400 North Rivergate Blvd.
Portland, OR 97203

Loren R. Dunn
Riddel Williams P.S.
1001 Fourth Avenue Plaza
Suite 4500
Seattle, WA 98154-1065

Cc: Joan Snyder
Stoel Rives LLP
Standard Insurance Center
900 S.W. Fifth Ave., Suite 2600
Portland, OR 97204-1268

30. Port of Portland

James McKenna
Port of Portland
121 NW Everett
PO Box 3529
Portland, OR 97208

Cc: David Ashton
Port of Portland
PO Box 3529
Portland, OR 97209

31. Schnitzer Investment Corp.

12005 N. Burgard Road; 6529 NW Front Avenue; 9333 N. Time Oil Road; 9449 N. Burgard Way; 3720 NW Yeon Avenue; 4012-4350 NW Front Avenue

Kenneth M. Novack
President
Schnitzer Investment Corp.
3200 NW Yeon Avenue
Portland, OR 97296-0047

32. Shaver Transportation Company

14400 N. Rivergate Boulevard and 4900 NW Front Avenue

Steve R. Shaver
President
Shaver Transportation Company
4900 NW Front Avenue
Portland, OR 97210

33. Shell Oil Company

5880 NW St Helens

William E. Platt III.
Senior Manager, Environmental Claims
Shell Oil Company
910 Louisiana, Suite 685
Houston, TX 77002

34. Siltronic Corporation

Neil Nelson
Siltronic Corporation
7200 NW Front Avenue
Portland, OR 97210-3676

Cc: Alan Gladstone
Davis Rothwell Earle & Xochihua, P.C.
1300 S.W. Fifth Avenue, Suite 1900
Portland, OR 97201

35. SLLI

Stuart Dearden

SLLI c/o sanofi-aventis
Route 202-206
P.O. Box 6800
Mail Code J103F
Bridgewater, NJ 08807-0800

Cc: James Benedict
Cable Huston Benedict Haagensen & Lloyd LLP
1001 SW Fifth Avenue, Suite 2000
Portland, OR 97204-1136

36. Time Oil Co.

Richard Gordon
Time Oil Co.
2737 West Commodore Way
PO Box 24447
Seattle, WA 98124-0447

Cc: Patty Dost
Schwabe, Williamson & Wyatt, P.C.
1211 SW 5th Avenue, Suite 1900
Portland, OR 97204

37. Tube Forgings of America, Inc.

5200 NW Front Avenue

Jay N. Zidell
Tube Forgings of America, Inc.
3121 SW Moody Avenue
Portland, OR 97239

38. Union Pacific Railroad Company

Robert C. Bylsma
Union Pacific Railroad Company
10031 Foothills Blvd., Suite 200
Roseville, CA 95747-7101

Cc: William F. Joyce
Salter Joyce Ziker, PLLC
1601 Fifth Ave., Suite 2040
Seattle, WA 98101

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
mieke@bridgeh2o.com

April 27, 2006

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
January through March 2006
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period January through March 2006 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed January through March 2006

- Continued to review site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.

Activities Planned April through June 2006

- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated January through March 2006

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced January through March 2006

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

BRIDGEWATER GROUP, INC

4500 SW [illegible] e Way; Suite 1
L[illegible]SWEGO, OR 97[illegible]
TEL: (503) 675-5[illegible]
FAX: (503) 675-1[illegible]
[illegible]ke@bridgeh2o.c[illegible]

January 10, 2006

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
October through December 2005
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period October through December 2005 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed October through December 2005

- Continued to review site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.

Activities Planned January through March 2006

- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated October through December 2005

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced October through December 2005

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

SCHNITZER STEEL INDUSTRIES, INC.

3200 NW Yeon Avenue
P.O. Box 10047
Portland, Oregon 97296-0047
Phone: (503) 224-9900
Fax: (503) 323-2804
Telex: 289875

March 16, 2006

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Notice of Excavation, Burgard Industrial Park

Dear Mr. Romero,

In accordance with the terms of the June 2000 Voluntary Agreement for Remedial Investigation and Source Control executed between Schnitzer Investment Corp. and the Oregon Department of Environmental Quality (DEQ), this letter provides notice to the DEQ of excavation work to be performed at the Burgard Industrial Park in Portland, Oregon.

The purpose of the excavation is to install electrical conduit and foundation slabs for a substation that will serve the new shredder at the Schnitzer scrap facility. The excavation will result in the temporary displacement of approximately 300 cubic yards of soil, which will be used to backfill the excavation. The location of the excavation area is shown on the attached site diagram.

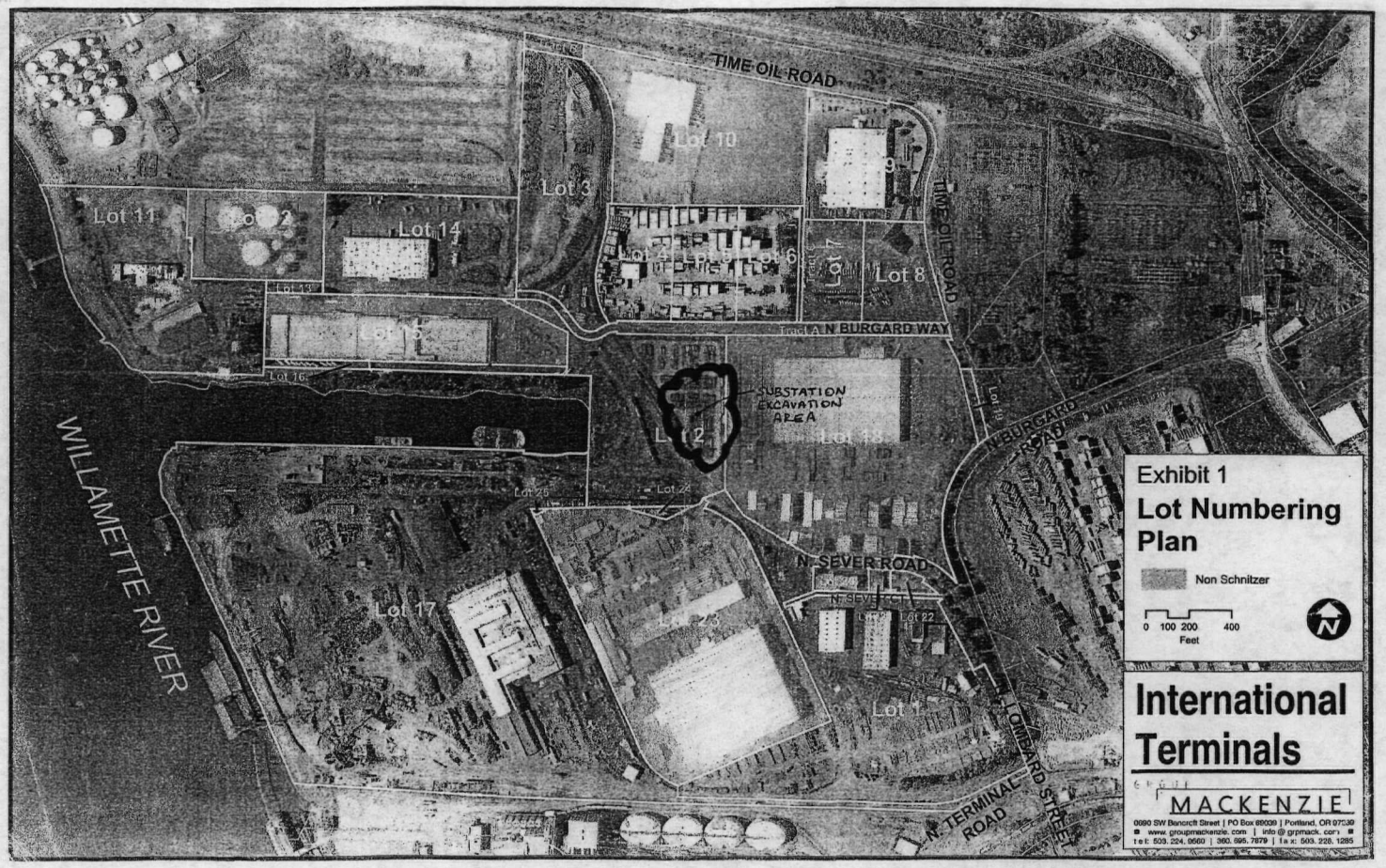
Schnitzer intends to proceed with this work on or about March 27, 2006.

Please feel free to call me at 503.286.6944 if you have any questions.

Sincerely,

SCHNITZER STEEL INDUSTRIES, INC.

Mathew Cusma
Environmental Administrator



SCHN00151431

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

January 11, 2007

Matt Cusma
Environmental Engineer
Schnitzer Investment Corporation
P.O. Box 10047
12005 N. Burgard Road
Portland, Oregon 97203

RE: Draft Source Control Evaluation Outline
Schnitzer Burgard Industrial Park, ECSI #2355

Dear Mr. Cusma:

DEQ has completed its review of the Source Control Evaluation Outline prepared by Bridgewater Group on behalf of Schnitzer Investment Corporation. The outline is a good start to completing the necessary source control screening and evaluation at the site as described in the *December 2005 Joint Source Control Strategy* (JSCS). Please consider the following comments when preparing this Source Control Evaluation report/work plan and developing a list of additional stormwater COIs.

General Comments

1. It is not entirely clear from the outline if the collection of new data for this Source Control Evaluation (SCE) is proposed or only a reworking of existing data is proposed. Based on a cursory review of the existing data, it is safe to assume that additional data will need to be collected to complete a SCE that meets the requirements outlined in the JSCS.

2. This outline could be used to prepare a report that functions as both a summary of existing data and a workplan for additional work.

3. The ultimate goal of this SCE is to obtain a source control decision from DEQ. The source control decision is subject to review by EPA and should comprehensively address all possible pathways and potential sources to the Willamette River. A general outline for source control decision documents is presented in Section 7.1.1 of the JSCS. Please ensure that all the items suggested in the JSCS outline such as descriptions of known releases are addressed in the Site History and/or the specific FOC sections of the workplan and final report as appropriate. Much of this information can be retrieved from the Site History Review, Pre RI Assessment and Phase I RI reports.

4. Please ensure that the *Framework for Portland Harbor Stormwater Screening Evaluations* in Appendix D of the JSCS is followed and referenced when developing the

workplan and final report. Additional references relating to stormwater can be found at http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/stormwater.htm .

5. In addition to site specific COIs, DEQ is requiring all sites conducting Portland Harbor source control evaluations that include a stormwater pathway to screen catch basin or in-line sediments for individual PCB Aroclors and Phthalate Esters as listed in JSCS Table 3.1 http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/docs/JSCSFinalTable03_1.pdf and referenced in paragraph 7 of the *Characterizing and Managing Catch Basin and In-Line Sediments in Portland Harbor* located at http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/docs/CatchBasinInlineSediements.pdf . Also, all relevant data including near shore or near stormwater outfall in-water sediment data should be considered when developing a list of stormwater pathway COIs.

6. At a minimum, a discussion of sampling protocol and analytical detection limits for screening against JSCS screening level values is necessary in the report/workplan. A specific SAPP can be developed or an existing one can be revised to accommodate the required detection limits. A good reference for attainable MRLs and MDLs can be found in the Lower Willamette Group's *Table A6-1 and A6-2 from the LWG Portland Harbor RI/FS Round 2 QAPP* dated June 24, 2004 and *Table 2-3 of the Round 2A Field Sampling Plan - Surface Water Sampling* dated August 13, 2004 (attached). For future sampling, Analytical methods that meet these MRL/MDLs should be used unless analytes are expected to exceed the higher detection limits of other methods.

7. It appears that a conventional Conceptual Site Model (CSM) has not yet been developed by Schnitzer for the site. A CSM may help to further refine the SCE and will be a necessary component in a final RI report and risk assessment.

8. In addition to table summaries, data should be presented on figures in a manner that facilitates the interpretation of the data and their relationship to source areas, pathways and other FOCs.

Specific Comments

Section 2 Work Performed to Date

Preexisting data should be presented in a manner that follows the conceptual view of the site from an SCE perspective and the use of figures to help display data in a spatial context will aid in the interpretation. For example, shallow soil data within 100 ft of catch basins used to represent the erodable soils pathway should be shown on a scaled figure that includes both the sample and catch basin locations.

2.2 Source Evaluation

A discussion of laboratory detection and reporting limits should be included with the presentation of the existing stormwater data.

2.3 Source Control Actions
Please include a summary of catch basin cleanout history, cleanout schedule and a discussion of any analytical profiling that has been done for waste disposal/characterization purposes of the removed sediments. Also, a timeline of BMP implementation and comparison to the characteristic features that identify the FOCs as a potential source of contaminants will prove useful in evaluating each specific pathway.

3.1 Overall Source Control Evaluation Approach
If not already included in an existing feature of concern, please include a discussion of the area at the east end of the international slip where barges are hauled onto land after being disassembled to the water line in the slip. The discussion should include the observed groundwater seeps in the area.

3.2 Source Evaluation at FOCs
This section should include a discussion of spills or releases, preferential pathways such as utility corridors and how the COIs for the specific FOCs have been or will be determined. Also, include a comparison of current and historical features such as if the existing stormwater lines were in place when the characteristic feature that identifies the FOC was in place. In addition, be sure to discuss the changes to stormwater and other pathways that may have resulted from the dock improvement and shredder relocation. These discussions will help in determining such things as the potential for legacy sediments to remain in stormwater lines or if paving has eliminated a potential source area.

Section 4 Data Gap Summary and Actions
This section is where the aforementioned workplan details can be included. Again references useful for developing a workplan can be found at http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/stormwater.htm.

Please contact me at (503) 229-5563 or Romero.Mike@deq.state.or.us to discuss any questions you may have regarding these comments. Provide a schedule for the preparation of this report/workplan and a schedule for the additional sampling and screening within 20 days of receipt of this letter.

Sincerely,

Michael Romero, Project Manager
Cleanup and Lower Willamette Section

cc: Dana Bayuk, Portland Harbor Section
Karen Tarnow, Cleanup and Lower Willamette Section
ECSI File #2355

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

January 11, 2007

Matt Cusma
Environmental Engineer
Schnitzer Investment Corporation
P.O. Box 10047
12005 N. Burgard Road
Portland, Oregon 97203

RE: Draft Source Control Evaluation Outline
Schnitzer Burgard Industrial Park, ECSI #2355

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1. It is not entirely clear from the outline if the collection of new data for this Source Control Evaluation (SCE) is proposed or only a reworking of existing data is proposed. Based on a cursory review of the existing data, it is safe to assume that additional data will need to be collected to complete a SCE that meets the requirements outlined in the JSCS.

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4. Please ensure that the *Framework for Portland Harbor Stormwater Screening Evaluations* in Appendix D of the JSCS is followed and referenced when developing the

workplan and final report. Additional references relating to stormwater can be found at http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/stormwater.htm .

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6. At a minimum, a discussion of sampling protocol and analytical detection limits for screening against JSCS screening level values is necessary in the report/workplan. A specific SAPP can be developed or an existing one can be revised to accommodate the required detection limits. A good reference for attainable MRLs and MDLs can be found in the Lower Willamette Group's *Table A6-1 and A6-2 from the LWG Portland Harbor RI/FS Round 2 QAPP* dated June 24, 2004 and *Table 2-3 of the Round 2A Field Sampling Plan - Surface Water Sampling* dated August 13, 2004 (attached). For future sampling, Analytical methods that meet these MRL/MDLs should be used unless analytes are expected to exceed the higher detection limits of other methods.

7. It appears that a conventional Conceptual Site Model (CSM) has not yet been developed by Schnitzer for the site. A CSM may help to further refine the SCE and will be a necessary component in a final RI report and risk assessment.

8. In addition to table summaries, data should be presented on figures in a manner that facilitates the interpretation of the data and their relationship to source areas, pathways and other FOCs.

Specific Comments

Section 2 Work Performed to Date
Preexisting data should be presented in a manner that follows the conceptual view of the site from an SCE perspective and the use of figures to help display data in a spatial context will aid in the interpretation. For example, shallow soil data within 100 ft of catch basins used to represent the erodable soils pathway should be shown on a scaled figure that includes both the sample and catch basin locations.

2.2 Source Evaluation
A discussion of laboratory detection and reporting limits should be included with the presentation of the existing stormwater data.

2.3 Source Control Actions
Please include a summary of catch basin cleanout history, cleanout schedule and a discussion of any analytical profiling that has been done for waste disposal/characterization purposes of the removed sediments. Also, a timeline of BMP implementation and comparison to the characteristic features that identify the FOCs as a potential source of contaminants will prove useful in evaluating each specific pathway.

3.1 Overall Source Control Evaluation Approach
If not already included in an existing feature of concern, please include a discussion of the area at the east end of the international slip where barges are hauled onto land after being disassembled to the water line in the slip. The discussion should include the observed groundwater seeps in the area.

3.2 Source Evaluation at FOCs
This section should include a discussion of spills or releases, preferential pathways such as utility corridors and how the COIs for the specific FOCs have been or will be determined. Also, include a comparison of current and historical features such as if the existing stormwater lines were in place when the characteristic feature that identifies the FOC was in place. In addition, be sure to discuss the changes to stormwater and other pathways that may have resulted from the dock improvement and shredder relocation. These discussions will help in determining such things as the potential for legacy sediments to remain in stormwater lines or if paving has eliminated a potential source area.

Section 4 Data Gap Summary and Actions
This section is where the aforementioned workplan details can be included. Again references useful for developing a workplan can be found at http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/stormwater.htm .

Please contact me at (503) 229-5563 or Romero.Mike@deq.state.or.us to discuss any questions you may have regarding these comments. Provide a schedule for the preparation of this report/workplan and a schedule for the additional sampling and screening within 20 days of receipt of this letter.

Sincerely,

Michael Romero, Project Manager
Cleanup and Lower Willamette Section

cc: Dana Bayuk, Portland Harbor Section
Karen Tarnow, Cleanup and Lower Willamette Section
ECSI File #2355

Table A6-1. Laboratory Methods for River and Beach Sediment Samples.

Analytes	Laboratory	Sample Preparation		Quantitative Analysis	
		Protocol	Procedure	Protocol	Procedure
Conventional Analyses	CAS Kelso				
Total solids		NA	--	PSEP 1986	Balance
Grain size		NA	--	PSEP 1986	Sieves and pipette method
Total sulfides		EPA 9030	Distillation	EPA 9030	Colorimetry
Ammonia		Plumb 1981	KCl extraction	EPA 350.1	Colorimetry
Total organic carbon		Plumb 1981	Acid pretreatment	Plumb et al., 1981	Combustion; coulometric titration
Geotechnical characteristics	CAS Redding				
Specific gravity		--	--	ASTM D-854	Gravimeter
Atterberg limits		--	--	ASTM D-4318	Moisture determination
Metals	CAS Kelso				
Aluminum, antimony, arsenic, cadmium, chromium, copper, lead, nickel, selenium, silver, zinc		EPA 3050	Strong acid digestion	EPA 6020	ICP/MS
Arsenic[a]		EPA 3050 EPA 7062	Strong acid digestion Hydride generation	EPA 7062	AAS
Selenium[b]		EPA 3050 EPA 7742	Strong acid digestion Hydride generation	EPA 7742	AAS
Mercury		EPA 7471A	Acid digestion/oxidation	EPA 7471A	CVAA
Hexavalent chromium		EPA 3060A	Alkaline digestion	EPA 7196A	Colorimetry
Butyltins	CAS Kelso	Krone et al. 1989	Solvent extraction Derivatization	Krone et. al 1989	GC/FPD
Petroleum hydrocarbons	CAS Kelso				
Gasoline-range hydrocarbons		NWTPH-Gx	Methanol extraction Purge and trap	NWTPH-Gx	GC/FID
Diesel- and oil-range hydrocarbons		NWTPH-Dx	Sovent extraction Silica gel cleanup (as needed)	NWTPH-Dx	GC/FID
Chlorinated herbicides and pentachlorophenol	STL Tacoma	EPA 8151A	Solvent extraction Esterification	EPA 8151A	GC/MS

Table A6-1. Laboratory Methods for River and Beach Sediment Samples.

Analytes	Laboratory	Sample Preparation		Quantitative Analysis	
		Protocol	Procedure	Protocol	Procedure
Organochlorine pesticides and selected SVOCs	NEA	EPA 3540 EPA 3620B EPA 3660B	Soxhlet extraction Florisil® cleanup Sulfur cleanup	EPA 8081A	GC/ECD
PCB Aroclors	NEA	EPA 3545 EPA 3665A EPA 3620B EPA 3660B	Pressurized fluid extraction Sulfuric acid cleanup Florisil® cleanup Sulfur cleanup	EPA 8082	GC/ECD
Volatile organic compounds	CAS Kelso	EPA 5035	Purge and trap	EPA 8260B	GC/MS
Semivolatile organic compounds	NEA	*EPA 3545* EPA 3640A	*Pressurized fluid extraction* Gel permeation chromatography	*EPA 8270C*	*GC/MS - ion trap*
PCB congeners	CAS Houston	EPA 1668A	Soxhlet/Dean Stark extraction Sulfuric acid cleanup Silica column cleanup	EPA 1668A	HRGC/HRMS
Chlorinated dioxins and furans	CAS Houston	EPA 1613B	Soxhlet/Dean Stark extraction Sulfuric acid cleanup Silica/carbon column cleanup	EPA 1613B	HRGC/HRMS

Notes:

[a]Arsenic will be analyzed by EPA method 7062 if it is not detected at the MRL by EPA method 6020.

[b]Selenium will be analyzed by EPA method 7742 if it is not detected at the MRL by EPA method 6020.

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

November 9, 2006

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Source Control Evaluation Outline
Burgard Industrial Park RI Project

Enclosed please find our outline for the source control evaluation report to be prepared at the Burgard Industrial Park site. We look forward to your review and comments. In the meantime, please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

February 4, 2008

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
October through December 2007
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period October through December 2007 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed October through December 2007

- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Submitted quarterly status report to DEQ on October 8, 2007.

Activities Planned January through March 2008

- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated October through December 2007

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced October through December 2007

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

October 8, 2007

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
July through September 2007
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period July through September 2007 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed July through September 2007

- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Submitted quarterly status report to DEQ on July 27, 2007.

Activities Planned October through December 2007

- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated July through September 2007

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced July through September 2007

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way, Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rieke@bridgeh2o.com

July 17, 2007

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
April through June 2007
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period April through June 2007 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed April through June 2007

- Submitted source control evaluation report on April 13, 2007.
- Submitted quarterly status report to DEQ on April 13, 2007.

Activities Planned July through September 2007

- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated April through June 2007

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced April through June 2007

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

TO: Steve Fortuna
DEQ Northwest Region

FROM: Doug Pontifex

DATE: March 16, 1999

RE: Site Assessment Information Request.

1a Boydstun Metal Works, Inc.
9002 N. Sever Court
Portland OR, 97203

1b Owner: Robert Boydstun IV
17223 S.E. Royer Road
Clackamas, OR 97015
(503) 658-4246

1c Property Owner: Schnitzer Investment Corp.
P.O. Box 10047
Portland, OR 97210
(503) 224-9900

1d The site is used for the manufacture of automobile transport equipment. This manufacturing is mainly steel and aluminum fabrication, painting (paint booth) and hydraulic/electrical fitting installation. These operations commenced here 03/01/95.

1e These premises have been around for years, but I have no idea of prior use.

1f We are one of 3 businesses located on Parcel 2, of Lot 1 in the Burgard Industrial Park. The size of the entire site is approx. 7 acres.

1g The site is completely fenced. It is not patrolled to my knowledge.

1h The site has a road on one side and industrial on the other 3 sides.

2a
- Prefab office building (2,000 sqft)
- Lower shop (24,000 sqft) is where we fabricate trailers. Welding, steel saws and plasma cutting machines are the major uses.
- Upper shop (24,000 sqft) is where we have our paint booth, hydraulic/electical installation and repair facility. There is also office space in this building.

2b See drawing included in package.

2c At one end of our Upper shop we do some minor repair and installation work under a canopy.

2d See drawing 2b.

2e Oil water seperator shown on drawing (2b).

2f Inactive well shown on drawing in pump house (2b).

3a - See info marked 3a for Mobile DTE 11M and Shell.
- Other items used and stored at plant are Paint, Solvent and Hardeners.

3b - Waste oil 300-600 gallons/year.
- See DEQ Registration Verification report '98.

3c - Diesel - 3,700 gal/year used. No waste. 250 gal max. on site.
- Hydraulic Oil (DTE-11M) - 12,000 gal/yr used. No waste. 1,000 gal max on site.
- Paint - 3,000 gal/year. Waste listed in Still Bottems report. 200 gal max on site.
- Hardeners - 1,000 gal/year. Waste listed in Still Bottems report. 40 gal max on site.
- Solvents - 1,200 gal/year. Waste listed in Still Bottems report. 70 gal max on site.

3d Solvent recycler machine.

3e Not aware of any waste disposal areas on this site prior to our tenancy.

3f Waste removed from site listed on the DEQ Registration Verification report '98.

3g No knowledge of any.

3h No knowledge.

4a Tank permit - #980594 , Oregon State fire marshal, 11/18/98, no exp. shown.
Small quantity generator permit #ORQ000003376, DEQ, 8/12/98, 8/12/99.

5a Environmental level II attached.

5b Not aware of any.

(letters\deq90312)

Oregon
John A. Kitzhaber, M.D., Governor

Department of Environmental Quality
Northwest Region
2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5263 Voice
TTY (503) 229-5471

229-6945

March 2, 1999

229-6899

Mr. Robert D. Boydstun IV
Boydstun Metal Works, Incorporated
9002 N Sever Road
Portland, OR 97203-6479

Re: Site Assessment Review Notice
Boydstun Metal Works
9002 N Sever Road
Portland, Oregon 97203-6479
Multnomah County

Dear Mr. Boydstun:

The Department of Environmental Quality (DEQ), Site Assessment Program is performing a preliminary review of file information for the Boydstun Metal Works facility located at 9002 N Sever Road in Portland, OR. The Site Assessment Program is concerned with properties with known or potential environmental contamination. This review is being performed under Oregon's Environmental Cleanup Law Oregon Revised Statutes (ORS) 465.245. Our records indicate that Boydstun Metal Works is an operator at the site. Please contact me if that information is not correct.

Based upon initial sampling results from a river sediment quality study conducted within Portland Harbor during the fall of 1997 by EPA and DEQ, and a review of available records, your site has been identified as a potential source of contamination to the river. EPA and DEQ collected near-shore sediment samples from 151 sampling locations along a six mile stretch of the Willamette River between the mouth of Multnomah Channel (at River Mile 3.6) and Swan Island (at River Mile 9.2). Samples were analyzed for metals, petroleum constituents,

SCHN00151477

may be recovered from persons defined as liable under Oregon Revised Statutes (ORS) 465.255. At the completion of the review we will inform you of DEQ's decision regarding further action and what, if any, costs will be recovered.

If you have any questions regarding this letter or the Site Assessment process, please feel free to contact Janelle Waggy at (503) 229-5741.

Sincerely,

Steve Fortuna, Remedial Action Specialist
Site Assessment Program
DEQ Northwest Region

Enclosure: Site Assessment Information Request Outline

cc: Gil Wistar, Coordinator, Site Assessment Program
Jennifer Sutter, Project Manager, Portland Harbor Sediment Project

Boydstun.ltr (3/99)

SITE ASSESSMENT INFORMATION REQUEST

Please address each item as completely as possible. When you cannot address a particular item because of a lack of information, please state so.

1. PROVIDE THE FOLLOWING BACKGROUND INFORMATION:

   a. Facility name and address.

   b. Facility owners and operators names, titles, addresses, and phone numbers.

   c. Property owners (if different from facility owner/operator) name, address, and phone number.

   d. Current use of site, and year those operations began at the site.

   e. Past use of site: include all you know about previous owners and users of site, and associated dates.

   f. Size of site (in acres or square feet) and tax lot numbers.

   g. Site security (is the site *completely or partially fenced, patrolled,* etc.?).

   h. Land uses immediately surrounding the site boundaries. An example of the type of information being sought: *"The site is mostly surrounded by industrial [or commercial, or agricultural] land, but a small residential area is located ¼ mile to the northwest....."*, etc.

2. PROVIDE A SITE MAP WITH THE FOLLOWING ITEMS IDENTIFIED:

   a. Building names and their functions (past and present).

   b. All chemical and waste storage and disposal areas (e.g., does the site have *buildings, ponds, ditches, landfills, waste piles, tanks, dry wells, drainfields,* etc.); include inactive or abandoned areas.

   c. Outdoor process areas.

   d. Storage tanks, both underground and above ground (*number, size, contents, active, inactive, decommissioned in place,* etc.).

   e. Waste treatment systems (including active, or inactive, drywells, drainfields, septic tanks).

   f. Any on-site wells (*water supply, monitoring, dry wells, abandoned wells*).

3. PROVIDE THE FOLLOWING CHEMICAL/WASTE HANDLING INFORMATION:

   a. All chemical products used or stored at the site, past and present (include any *fuels, solvents, oils, pesticides,* etc.).

(OVER)

Registration Verification Report '98

DEQ ID No: ORQ000003376 Name: Boydstun Metal Works Inc

Location: 9002 N SEVER CT

PORTLAND, OR 97203

Current name if different from above: _____

Your Standard Industrial Classification (SIC) code is currently listed as:

3499: Fabricated metal products

Current code if different: [ ]

Your current employee count is listed as 185. Please indicate the correct count if it has changed: 230

Verify the information in the left column, and make any corrections in the right column:

The owner of Boydstun Metal Works Inc is:

Organization: Boydstun Metal Works, Inc. Address: 9002 N Sever Ct Portland, OR 97203 Phone: 503 285-3515	Organization: Address: Phone:

The owner of the property on which Boydstun Metal Works Inc is located is:

Organization: Schnitzer Investment Corp Address: PO Box 10047 Portland, OR 97296-0047 Phone: 503 224-9900	Organization: Address: Phone:

The address for DEQ to send hazardous waste information to Boydstun Metal Works Inc is:

Organization: Boydstun Metal Works, Inc. Address: 9002 N Sever Ct Portland, OR 97203	Organization: Address:

The address for DEQ to send hazardous waste fee invoices for Boydstun Metal Works Inc is:

Organization: Boydstun Metal Works Inc Address: 9002 N Sever Ct Portland, OR 97203	Organization: Address:

The contact names and phone numbers for Boydstun Metal Works Inc are:

Fees:	Jim Carey	503 285-3515	Fees:	
Site visits:	Jim Carey	503 285-3515	Site visits:	
Forms:	Jim Carey	503 285-3515	Forms:	

Hazardous waste generator status:

Boydstun Metal Works Inc last reported as a Small Quantity Generator on the 1997 Annual Report

What was the generator status for Boydstun Metal Works Inc in 1998?

[ ] Large Quantity Generator [X] Small Quantity Generator [ ] Conditionally Exempt Generator

01/14/1999

SCHN00151480

1998 Waste Generation & Management—Answer Sheet

PLEASE ENTER:

Facility name: Boydstun Metal Works

DEQ ID number: OR000003376

Note: Make as many two-sided copies of the answer sheet as you need BEFORE anwering any questions.
REVIEW QUESTIONS ON PAGES 20 - 22 BEFORE COMPLETING ANSWER SHEET.

1. Waste Stream Description Still Bottoms

2. Waste Codes D001 F003 F005 D035

3. State Only Code OR _____

4. Mixed Waste? ☒No ☐Yes

5. Source Code A 21

6. Form Code B 211

7. Waste Origin 1☒ 2☐ 3☐ 4☐ 5☐

7A. Residual Management M 021

8. Reported Toxic Substances in Waste? 1☒ 2☐ 3☐

8A. CAS Number _____

9. Point of Measurement or Calculation 1☐ 2☒ 3☐ 4☐

10. Total Quantity Generated for This Waste Stream 1210

Unit of Measure P☒ G☐ ST☐ C☐ K☐ L☐ MT☐

10A. Density 8.25 ☒Pounds/gallon ☐Specific gravity ☐Pounds/cubic yard

11. Managed On or Off-site? ☒On-site ☐Off-site ☐Both On-site & Off-site

11A. Quantity Managed or Recycled On-site 1210 G Management Code M 061

11B. Was the entire quantity of this waste remaining on-site at the end of 1998 (none managed on or off-site)?

☒No ☐Yes

If any of this waste stream was shipped off-site in 1998, give details of each shipment on the back of this answer sheet.

Comments:

SCHN00151481

1998 Waste Generation & Management—Answer Sheet

PLEASE ENTER:

Facility name: Boydstun Metal Works

DEQ ID number: ORQ000003376

Note: Make as many two-sided copies of the answer sheet as you need BEFORE anwering any questions.
REVIEW QUESTIONS ON PAGES 20 - 22 BEFORE COMPLETING ANSWER SHEET.

1. Waste Stream Description Solvent

2. Waste Codes D001 F003

3. State Only Code OR

4. Mixed Waste? ☒No ☐Yes

5. Source Code A A-21

6. Form Code B B 203

7. Waste Origin 1☒ 2☐ 3☐ 4☐ 5☐

7A. Residual Management M 021

8. Reported Toxic Substances in Waste? 1☒ 2☐ 3☐

8A. CAS Number

9. Point of Measurement or Calculation 1☒ 2☐ 3☐ 4☐

10. Total Quantity Generated for This Waste Stream

Unit of Measure P☐ G☒ ST☐ C☐ K☐ L☐ MT☐

10A. Density 6.66 ☒Pounds/gallon ☐Specific gravity ☐Pounds/cubic yard

11. Managed On or Off-site? ☒On-site ☐Off-site ☐Both On-site & Off-site

11A. Quantity Managed or Recycled On-site 1320 G Management Code M 021

11B. Was the entire quantity of this waste remaining on-site at the end of 1998 (none managed on or off-site)?

☒No ☐Yes

If any of this waste stream was shipped off-site in 1998, give details of each shipment on the back of this answer sheet.

Comments:
Any items remaining after re-cycling is then listed on the Still Bottoms sheet.

SCHN00151482

3A

Shell

MATERIAL SAFETY DATA SHEET

97367 (4-85)

MSDS NUMBER ▶ 52,320-6 PAGE 1

24 HOUR EMERGENCY ASSISTANCE	GENERAL MSDS ASSISTANCE
SHELL: 713-473-9461 CHEMTREC: 800-424-9300	SHELL: 713-241-4819

ACUTE HEALTH *	FIRE	REACTIVITY	HAZARD RATING ▶
2	2	0	LEAST - 0 SLIGHT - 1 MODERATE - 2 HIGH - 3 EXTREME - 4

*For acute and chronic health effects refer to the discussion in Section III

BE SAFE
READ OUR PRODUCT SAFETY INFORMATION ...AND PASS IT ON
(PRODUCT LIABILITY LAW REQUIRES IT)

SECTION I	NAME
PRODUCT ▶	SHELL DIESELINE(R)
CHEMICAL NAME ▶	DIESEL OIL
CHEMICAL FAMILY ▶	PETROLEUM HYDROCARBON
SHELL CODE ▶	31135

SECTION II-A PRODUCT/INGREDIENT

NO.	COMPOSITION	CAS NUMBER	PERCENT
P	SHELL DIESELINE	68334-30-5	100

SECTION II-B ACUTE TOXICITY DATA

NO.	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
P	NOT AVAILABLE		

SECTION III HEALTH INFORMATION

THE HEALTH EFFECTS NOTED BELOW ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

EYE CONTACT
BASED ON ESSENTIALLY SIMILAR PRODUCT TESTING LIQUID IS PRACTICALLY NONIRRITATING TO THE EYES.

SKIN CONTACT
BASED ON ESSENTIALLY SIMILAR PRODUCT TESTING LIQUID IS PRESUMED TO BE MODERATELY IRRITATING TO THE SKIN. PROLONGED OR REPEATED LIQUID CONTACT CAN RESULT IN DEFATTING AND DRYING OF THE SKIN WHICH MAY RESULT IN SEVERE IRRITATION AND DERMATITIS. MAY CAUSE MILD SKIN SENSITIZATION. RELEASE DURING HIGH PRESSURE USAGE MAY RESULT IN INJECTION OF OIL INTO THE SKIN CAUSING LOCAL NECROSIS.

INHALATION
INHALATION OF VAPORS OR MIST MAY CAUSE MILD IRRITATION TO THE UPPER RESPIRATORY TRACT. HIGH CONCENTRATIONS MAY RESULT IN CENTRAL NERVOUS SYSTEM DEPRESSION. INHALATION OF HIGH LEVELS OF MIST MAY RESULT IN CHEMICAL PNEUMONITIS.

INGESTION
INGESTION OF PRODUCT MAY RESULT IN VOMITING; ASPIRATION (BREATHING) OF VOMITUS INTO THE LUNGS MUST BE AVOIDED AS EVEN SMALL QUANTITIES MAY RESULT IN ASPIRATION PNEUMONITIS.

SIGNS AND SYMPTOMS
IRRITATION AS NOTED ABOVE. SKIN SENSITIZATION (ALLERGY) MAY BE EVIDENCED BY RASHES, ESPECIALLY HIVES. EARLY TO MODERATE CNS (CENTRAL NERVOUS SYSTEM) DEPRESSION MAY BE EVIDENCED BY GIDDINESS,

HEADACHE, DIZZINESS AND NAUSEA; IN EXTREME CASES, UNCONSCIOUSNESS AND DEATH MAY OCCUR. LOCAL NECROSIS IS EVIDENCED BY DELAYED ONSET OF PAIN AND TISSUE DAMAGE A FEW HOURS FOLLOWING INJECTION. ASPIRATION PNEUMONITIS MAY BE EVIDENCED BY COUGHING, LABORED BREATHING AND CYANOSIS (BLUISH SKIN); IN SEVERE CASES DEATH MAY OCCUR.

AGGRAVATED MEDICAL CONDITIONS
PREEXISTING SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. PREEXISTING SKIN OR LUNG ALLERGIES MAY INCREASE THE CHANCE OF DEVELOPING INCREASED ALLERGY SYMPTOMS FROM EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS
KIDNEY DAMAGE MAY RESULT FOLLOWING ASPIRATION PNEUMONITIS. THE RESULTS OF ANIMAL BIOASSAYS ON MIDDLE DISTILLATE FUELS SHOW THAT PROLONGED DERMAL CONTACT PRODUCES A WEAK TO MODERATE CARCINOGENIC ACTIVITY.

SEE SECTION VI FOR ADDITIONAL HEALTH INFORMATION.

SECTION IV OCCUPATIONAL EXPOSURE LIMITS

	OSHA		ACGIH		OTHER
NO.	PEL/TWA	PEL/CEILING	TLV/TWA	TLV/STEL	
P	*				

* NO OSHA PEL OR ACGIH TLV HAS BEEN ESTABLISHED.

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
FLUSH EYES WITH WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

SKIN CONTACT
REMOVE CONTAMINATED CLOTHING/SHOES AND WIPE EXCESS FROM SKIN. FLUSH SKIN WITH WATER. FOLLOW BY WASHING WITH SOAP AND WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION. DO NOT REUSE CLOTHING UNTIL CLEANED. IF MATERIAL IS INJECTED UNDER THE SKIN, GET MEDICAL ATTENTION PROMPTLY TO PREVENT SERIOUS DAMAGE; DO NOT WAIT FOR SYMPTOMS TO DEVELOP.

INHALATION
REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION.

INGESTION
DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

NOTE TO PHYSICIAN
IF MORE THAN 2.0 ML PER KG HAS BEEN INGESTED AND VOMITING HAS NOT OCCURRED, EMESIS SHOULD BE INDUCED WITH SUPERVISION. KEEP VICTIM'S HEAD BELOW HIPS TO PREVENT ASPIRATION. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE USING A CUFFED ENDOTRACHEAL TUBE SHOULD BE CONSIDERED.

SECTION VI SUPPLEMENTAL HEALTH INFORMATION

REPEATED DERMAL APPLICATION OF HIGH LEVELS OF MIDDLE DISTILLATE FUELS IN EXPERIMENTAL ANIMALS HAS PRODUCED EXTREMELY SEVERE IRRITATION TO CORROSIVE ACTION ON THE SKIN. VARYING DEGREES OF LIVER AND KIDNEY DAMAGE WERE NOTED IN THESE STUDIES, INCLUDING CONGESTION, ENLARGEMENT, MOTTLING, AND MULTIFOCAL NECROSIS.

MIDDLE DISTILLATE FUELS HAVE BEEN DEMONSTRATED TO CAUSE CHROMOSOME DAMAGE IN THE IN VIVO RAT BONE MARROW CYTOGENETICS ASSAY, AND MUTAGENIC IN THE L5178Y MOUSE LYMPHOMA ASSAY. BASED ON AN INCREASED INCIDENCE OF VARIOUS TUMORS IN STUDIES WITH LABORATORY ANIMALS, THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH) REGARDS WHOLE DIESEL EXHAUST AS A POTENTIAL OCCUPATIONAL CARCINOGEN.

SECTION VII PHYSICAL DATA

BOILING POINT: 450 (APPROX.) (DEG F)

SPECIFIC GRAVITY: 0.8762 (H2O=1)

VAPOR PRESSURE: NOT AVAILABLE (MM HG)

MELTING POINT: NOT AVAILABLE (DEG F)

SOLUBILITY: (IN WATER) NEGLIGIBLE

VAPOR DENSITY: >1 (AIR=1)

EVAPORATION RATE (N-BUTYL ACETATE = 1): NOT AVAILABLE

APPEARANCE AND ODOR:
YELLOW LIQUID; STRONG HYDROCARBON ODOR.

SECTION VIII FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD:
125 DEG F (PMCC) MIN.

FLAMMABLE LIMITS /% VOLUME IN AIR
LOWER: N/AV UPPER: N/AV

EXTINGUISHING MEDIA
USE WATER FOG, FOAM, DRY CHEMICAL OR CO2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS
CAUTION. COMBUSTIBLE. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS), INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINTED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER. IN THE CASE OF LARGE FIRES, ALSO COOL SURROUNDING EQUIPMENT AND STRUCTURES WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS
CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

SECTION IX REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID:
AVOID HEAT, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS
THERMAL DECOMPOSITION PRODUCTS ARE HIGHLY DEPENDENT ON THE COMBUSTION CONDITIONS. A COMPLEX MIXTURE OF AIRBORNE SOLID, LIQUID, PARTICULATES AND GASES WILL EVOLVE WHEN THIS MATERIAL UNDERGOES PYROLYSIS OR COMBUSTION. CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED UPON COMBUSTION.

SECTION X EMPLOYEE PROTECTION

RESPIRATORY PROTECTION
USE A NIOSH-APPROVED RESPIRATOR AS REQUIRED TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134, USE EITHER A FULL-FACE, ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE CLOTHING
NO SPECIAL EYE PROTECTION IS ROUTINELY NECESSARY. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. WEAR CHEMICAL RESISTANT GLOVES AND OTHER CLOTHING AS REQUIRED TO MINIMIZE CONTACT.

ADDITIONAL PROTECTIVE MEASURES
USE EXPLOSION-PROOF VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS.

SECTION XI ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES
CAUTION. COMBUSTIBLE. *** LARGE SPILLS *** ELIMINATE POTENTIAL SOURCES OF IGNITION. WEAR APPROPRIATE RESPIRATOR AND OTHER PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND, OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS AND SEAL TIGHTLY FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTION AS ABOVE. *** SMALL SPILLS *** TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL.

SECTION XII SPECIAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHTS, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE; FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE (ONLY) WITH ADEQUATE VENTILATION. CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

SECTION XIII TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION:
COMBUSTIBLE LIQUID

D.O.T. PROPER SHIPPING NAME:
FUEL OIL, NA 1993

SECTION XIV OTHER REGULATORY CONTROLS

THIS PRODUCT IS LISTED ON THE EPA/TSCA INVENTORY OF CHEMICAL SUBSTANCES.

IN ACCORDANCE WITH SARA TITLE III, SECTION 313, THE ATTACHED ENVIRONMENTAL DATA SHEET (EDS) SHOULD ALWAYS BE COPIED AND SENT WITH THE MSDS.

SECTION XV STATE REGULATORY INFORMATION

THE FOLLOWING CHEMICALS ARE SPECIFICALLY LISTED BY INDIVIDUAL STATES; OTHER PRODUCT SPECIFIC HEALTH AND SAFETY DATA IN OTHER SECTIONS OF THE MSDS MAY ALSO BE APPLICABLE FOR STATE REQUIREMENTS. FOR DETAILS ON YOUR REGULATORY REQUIREMENTS YOU SHOULD CONTACT THE APPROPRIATE AGENCY IN YOUR STATE.

STATE LISTED COMPONENT	PERCENT	STATE CODE
DIESEL OIL (CAS NO: 68334-30-5)	100	RI, NJ

CA = CALIFORNIA HAZ. SUBST. LIST; CA65 = CALIFORNIA SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT LIST; FL = FLORIDA SUBST. LIST; IL = ILLINOIS TOX. SUBST. LIST; MA = MASSACHUSETTS SUBST. LIST; ME = MAINE HAZ SUBST. LIST; MN = MINNESOTA HAZ. SUBST. LIST; NJ = NEW JERSEY HAZ. SUBST. LIST; PA = PENNSYLVANIA HAZ. SUBST. LIST; RI = RHODE ISLAND HAZ. SUBST. LIST.

SECTION XVI SPECIAL NOTES

THIS MSDS REVISION HAS CHANGES IN SECTION XV.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, SHELL MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SHELL ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

DATE PREPARED: APRIL 09, 1992

J. C. WILLETT

BE SAFE

READ OUR PRODUCT
SAFETY INFORMATION ...AND PASS IT ON
(PRODUCT LIABILITY LAW
REQUIRES IT)

SHELL OIL COMPANY
PRODUCT SAFETY AND COMPLIANCE
P. O. BOX 4320
HOUSTON, TX 77210

Shell

ENVIRONMENTAL DATA SHEET

EDS NUMBER ▶ 52,320 PAGE 1

97449 (8-87)

PRODUCT ▶	SHELL DIESELINE(R)
PRODUCT CODE ▶	31135

SECTION I PRODUCT/COMPOSITION

NO.	COMPONENT	CAS NUMBER	PERCENT
P	SHELL DIESELINE	68334-30-5	100

SECTION II SARA TITLE III INFORMATION

NO.	EHS RQ (LBS) (*1)	EHS TPQ (LBS) (*2)	SEC 313 (*3)	313 CATEGORY (*4)	311/312 CATEGORIES (*5)
P					H-1, H-2, P-3

FOOTNOTES

*1 = REPORTABLE QUANTITY OF EXTREMELY HAZARDOUS SUBSTANCE, SEC.302
*2 = THRESHOLD PLANNING QUANTITY, EXTREMELY HAZARDOUS SUBSTANCE, SEC 302
*3 = TOXIC CHEMICAL, SEC 313
*4 = CATEGORY AS REQUIRED BY SEC 313 (40 CFR 372.65 C), MUST BE USED ON TOXIC RELEASE INVENTORY FORM
*5 = HAZARD CATEGORY FOR SARA SEC. 311/312 REPORTING
HEALTH H-1 = IMMEDIATE (ACUTE) HEALTH HAZARD H-2 = DELAYED (CHRONIC) HEALTH HAZARD
PHYSICAL P-3 = FIRE HAZARD P-4 = SUDDEN RELEASE OF PRESSURE HAZARD
P-5 = REACTIVE HAZARD

SECTION III ENVIRONMENTAL RELEASE INFORMATION

UNDER EPA-CWA, THIS PRODUCT IS CLASSIFIED AS AN OIL UNDER SECTION 311. SPILLS INTO OR LEADING TO SURFACE WATERS THAT CAUSE A SHEEN MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER, 800-424-8802.

SECTION IV RCRA INFORMATION

UNDER EPA - RCRA (40 CFR 261.21), IF THIS PRODUCT BECOMES A WASTE MATERIAL, IT WOULD BE IGNITABLE HAZARDOUS WASTE, HAZARDOUS WASTE NUMBER D001. REFER TO LATEST EPA OR STATE REGULATIONS REGARDING PROPER DISPOSAL.

PRODUCT NAME: SHELL DIESELINE(R)

EDS 52,320
PAGE 2

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, SHELL MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SHELL ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

DATE PREPARED:OCTOBER 15, 1987

SHELL OIL COMPANY
CORPORATE ENVIRONMENTAL AFFAIRS
P. O. BOX 4320
HOUSTON, TX 77210

FOR ADDITIONAL INFORMATION ON THIS ENVIRONMENTAL DATA PLEASE CALL
(713) 241-2252

FOR EMERGENCY ASSISTANCE PLEASE CALL
SHELL: (713) 473-9461
CHEMTREC: (800) 424-9300

3A

MATERIAL SAFETY DATA BULLETIN

MOBIL DTE 11M

1. PRODUCT AND COMPANY IDENTIFICATION

APPROVAL DATE: 08/15/98

PRODUCT NAME: MOBIL DTE 11M
SUPPLIER: MOBIL OIL CORP.
NORTH AMERICA MARKETING AND REFINING
3225 GALLOWS RD.
FAIRFAX, VA 22037

24 - Hour Emergency (call collect):	609-737-4411	
Product and MSDS Information:	800-662-4525	609-224-4644
CHEMTREC:	800-424-9300	202-483-7616

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES

INGREDIENTS CONSIDERED HAZARDOUS TO HEALTH:

This product is not formulated to contain ingredients which have exposure limits established by U.S. agencies. It is not hazardous to health as defined by the European Union Dangerous Substances/Preparations Directives. See Section 15 for a regulatory analysis of the ingredients.

See Section 15 for European Label Information.

See Section 8 for exposure limits (if applicable).

3. HAZARDS IDENTIFICATION

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.
EFFECTS OF OVEREXPOSURE: No significant effects expected.
EMERGENCY RESPONSE DATA: Amber Liquid. Note: Pressurized mists may form a flammable mixture. DOT ERG No. - NA

4. FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water. If irritation occurs, call a physician.

SKIN CONTACT: Wash contact areas with soap and water. High pressure accidental injection through the skin requires immediate medical attention for possible incision, irrigation and/or debridement.

INHALATION: Not expected to be a problem.

INGESTION: Not expected to be a problem. However, if greater than 1/2 liter(pint) ingested, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room or poison control center for assistance. Do not induce vomiting or give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

SPECIAL PROTECTIVE EQUIPMENT: For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Note: Pressurized mists may form a flammable mixture. Flash Point C(F): 148(298) (ASTM D-92). Flammable limits - LEL: NA, UEL: NA.

NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide. Metal oxides. Elemental oxides.

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: Report spills as required to appropriate authorities. U. S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Adsorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.

ENVIRONMENTAL PRECAUTIONS: Prevent spills from entering storm sewers or drains and contact with soil.

PERSONAL PRECAUTIONS: See Section 8

7. HANDLING AND STORAGE

HANDLING: High pressure injection under the skin may occur due to the rupture of pressurized lines. Always seek medical attention.

STORAGE: Do not store in open or unlabelled containers. Store away from strong oxidizing agents or combustible material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: No special requirements under ordinary conditions of use and with adequate ventilation.

RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation.

EYE PROTECTION: Normal industrial eye protection practices should be employed.

SKIN PROTECTION: No special equipment required. However, good personal hygiene practices should always be followed.

EXPOSURE LIMITS: This product does not contain any components which have recognized exposure limits. However, a exposure limit of 5.00 mg/m3 is suggested for oil mist.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical physical properties are given below. Consult Product Data Sheet for specific details.

APPEARANCE: Liquid
COLOR: Amber
ODOR: Mild
ODOR THRESHOLD-ppm: NE
pH: NA
BOILING POINT C(F): > 316(600)
MELTING POINT C(F): NA
FLASH POINT C(F): 148(298) (ASTM D-92)
FLAMMABILITY: NE
AUTO FLAMMABILITY: NE
EXPLOSIVE PROPERTIES: NA
OXIDIZING PROPERTIES: NA
VAPOR PRESSURE-mmHg 20 C: < 0.1
VAPOR DENSITY: > 2.0
EVAPORATION RATE: NE
RELATIVE DENSITY, 15/4 C: 0.871
SOLUBILITY IN WATER: Negligible
PARTITION COEFFICIENT: > 3.5
VISCOSITY AT 40 C, cSt: 15.3
VISCOSITY AT 100 C, cSt: 3.2
POUR POINT C(F): -39(-38)
FREEZING POINT C(F): NE
VOLATILE ORGANIC COMPOUND: NA

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): Stable.
CONDITIONS TO AVOID: Extreme heat.
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide. Metal oxides. Elemental oxides.
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL DATA

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.

DERMAL TOXICITY (RABBITS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.

INHALATION TOXICITY (RATS): Not applicable ---Harmful concentrations of mists and/or vapors are unlikely to be encountered through any customary or reasonably foreseeable handling, use, or misuse of this product.

EYE IRRITATION (RABBITS): Practically non-irritating. (Draize score: greater than 6 but 15 or less). ---Based on testing of similar products and/or the components.

SKIN IRRITATION (RABBITS): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). ---Based on testing of similar products and/or the components.

OTHER ACUTE TOXICITY DATA: The acute toxicological results summarized above are based on testing of representative Mobil products.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

Representative Mobil formulations have been tested at the Mobil Environmental and Health Sciences Laboratory by dermal applications to rats 5 days/week for 90 days at doses significantly higher than those expected during normal industrial exposure. Extensive evaluations, including microscopic examination of internal organs and clinical chemistry of body fluids, showed no adverse effects.

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---

Dermal exposure of pregnant rats to representative formulations did not cause adverse effects in either the mothers or their offspring.

---CHRONIC TOXICOLOGY (SUMMARY)---

The base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of severely treated oils showed no evidence of carcinogenic effects. These results are confirmed on a continuing basis using various screening methods such as the Mobil Modified Ames Test and IP-346.

---SENSITIZATION (SUMMARY)---

Representative Mobil formulations have not caused skin sensitization in guinea pigs.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS: Not established.

SCHN00151494

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at an appropriate government waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

14. TRANSPORT INFORMATION

USA DOT: NOT REGULATED BY USA DOT.

RID/ADR: NOT REGULATED BY RID/ADR.

IMO: NOT REGULATED BY IMO.

IATA: NOT REGULATED BY IATA.

15. REGULATORY INFORMATION

Governmental Inventory Status: All components comply with TSCA, EINECS/ELINCS, and DSL.

EU Labeling: EU labeling not required.

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III:
This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

This product contains no chemicals reportable under SARA (313) toxic release program.

THIS PRODUCT HAS BEEN AUTHORIZED BY USDA FOR USE UNDER THE FOLLOWING CATEGORY: H2 - Lubricants With No Food Contact

The following product ingredients are cited on the lists below:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZINC ALKENYL CARBOXAMIDE (0.64%)		22
ZINC (ELEMENTAL ANALYSIS) (0.10%)	7440-66-6	22
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2: 1) (ZDDP) (0.66%)	68649-42-3	22

--- REGULATORY LISTS SEARCHED ---

1=ACGIH ALL	6=IARC 1	11=TSCA 4	16=CA P65 CARC	21=LA RTK
2=ACGIH A1	7=IARC 2A	12=TSCA 5a2	17=CA P65 REPRO	22=MI 293
3=ACGIH A2	8=IARC 2B	13=TSCA 5e	18=CA RTK	23=MN RTK
4=NTP CARC	9=OSHA CARC	14=TSCA 6	19=FL RTK	24=NJ RTK
5=NTP SUS	10=OSHA Z	15=TSCA 12b	20=IL RTK	25=PA RTK
				26=RI RTK

Code key: CARC=Carcinogen; SUS=Suspected Carcinogen; REPRO=Reproductive

16. OTHER INFORMATION

USE: HYDRAULIC OIL

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

Please call the Customer Response Center on 800-662-4525 for formulation disclosure.

****
For Internal Use Only: MHC: 1* 1* NA 1* 1*, MPPEC: A, TRN: 603100-00, GLIS: 400260, CMCS97: 970530, REQ: US - MARKETING, SAFE USE: L
****

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END OF DOCUMENT

SCHN00151497

(1)

EMS
1800 SW First Avenue
Suite 510
Portland, Oregon 97201
503-225-9060
FAX: 503-273-8612

January 20, 1998

Mr. Rob Boydstun
Boydstun Metals Inc.
9002 North Sever Ct.
Portland, OR 97227

RE: Level II Environmental Sampling Study of Parcel 2 in the Burgard Industrial Park in Portland, OR

Dear Rob:

I am pleased to present the results of our level II environmental sampling study of real property in Parcel 2 in the Burgard Industrial Park in Portland, OR.

Introduction

Information contained in Environmental Management Solutions November 3, 1997 Level I Environmental Site Assessment of this property, indicated that historic land use of the subject property and immediately surrounding sites posed a risk of subsurface contamination.

According to our level I report, historic land use of the subject property included salvage operations, electrical equipment storage, a truck and railroad equipment fabrication and maintenance facility, as well as the storage of spent abrasive blast media.

From November 26, to December 4, 1997, Environmental Management Solutions conducted a limited test pit, borehole and surface sampling study of this property. Figure 2 contains a site diagram showing the sample collection locations.

Site Location

The subject property consists of Parcel 2, of Lot 1, in the Burgard Industrial Park, City of Portland. There are currently three businesses located on the subject property; Boydstun Metal Works, Inc. at 9002 N Sever Ct.,Western Machine Works at 12005 N Burgard Street and Portland Blast Media located on the southeast corner of the site. Figure 1 shows the subject property location.

The subject property is located in an industrial portion of North Portland immediately north of the Port of Portland Terminal 4. Land use in the vicinity of the subject property is zoned for Heavy Industrial.

The subject property has a slight grade towards the west. A majority of the site is surfaced with asphalt or gravel. Buildings cover the remainder of the site.

Sampling Study

To further investigate subsurface conditions and to screen for gross site contamination, four test pits were excavated by backhoe and fifteen boreholes were hand augured to various depths by Environmental Management Solutions. Materials descriptions and organic vapor monitor (OVM) field readings were logged for each subsurface sampling location. An open utility trench, running the length of the western property line was observed, but no soil samples or OVM readings were collected.

Soil samples from each sampling location were collected and stored per OAR 340-122-345 and transported to Amtest Laboratories in Beaverton, Oregon under appropriate chain-of-custody documentation.

Soil samples were analyzed for poly-chlorinated biphenyls (PCBs), petroleum hydrocarbons, leachable metals (8 metals), chlorinated and aromatic volatile organic compounds (VOC)s and semi-volatile compounds and poly-aromatic hydrocarbons (PAH)s. The groundwater samples collected were analyzed for soluble metals, petroleum hydrocarbons and chlorinated and aromatic VOC's.

Table 1 contains soil profiles and organic vapor monitor (OVM) field readings. Table 2 contains a summary of the laboratory analyses for VOCs, Semi-VOCs, PCBs and TPH-HCID, TCLP 8 and soluble metals.

Appendix A contains the Engineer's Report. Appendix B contains the laboratory chain-of-custody and laboratory analysis reports.

Analysis and Conclusions

In our opinion, a limited test pit (TP), borehole (BH) survey of this property using the OVM, and analyses of the soil and groundwater samples collected, form a reasoned approach for compiling gross indications of hazardous substance contamination of the property.

- OVM readings from test pits and boreholes did not indicate subsurface contamination.
- All thirteen soil samples tested for HCID were nondetect.

■Of eight soil samples analyzed for VOCs, only one had measurable VOCs which showed toluene and xylenes each at the detection limit of 2 parts per billion (ppb), that is below DEQ Industrial Maximum Allowable Soil Concentrations.

■None of the test pits, boreholes or the utility trench had visible or olfactory indications of contamination, with the possible exception of the near surface material observed in the utility trench and subsequently in BH-12.

■ A samples from TP-1 tested positive for PAHs. This sample also was positive for PCBs and TCLP lead. All were above DEQ Industrial Maximum Allowable Soil Concentrations. These compounds are typically associated with contamination from transformer oil, cutting oils or hydraulic fluid and/or waste oil containing transformer oil or hydraulic fluid.

■PCB's were identified in two of the fourteen samples, TP-1 at a concentration of 15.3 parts per million (ppm) and 0.5 ppm in BH-2. These concentrations are at Oregon Department of Environmental Quality (DEQ) action levels.

■Only one of nine samples tested for TCLP-8 indicated a detectable concentration leachable metal, other than barium. The sample from TP-1 tested positive for lead at 50 ppm, which is above the DEQ Leachate Reference Concentration of 2 ppm. The lead is thought to be associated with transformer, hydraulic, cutting or waste oil releases.

■Water samples from a borehole and an onsite industrial well were collected. The borehole and well samples showed tetrachloroethylene (PCE) at 1.1 part per billion ppb and 1.4 ppb respectively. The well water additionally showed trichloroethene at 3.9 ppb. The drinking water standard for PCE is 5 ppb and the Oregon Soil Cleanup Table Groundwater Reference Concentration for PCE is 2 ppb. Considerable testing would be necessary to confirm the presence and concentrations of these compounds, and to determine if this is an onsite or regional groundwater issue.

■The well water was tested and reported nondetect for TPH-HCID.

■The borehole and well water samples were also tested for soluble metals. The borehole sample had 0.015 ppm arsenic. By comparison the interim drinking water standard is 0.05 ppm and the Ground Water Reference Concentration is 0.00004 ppm. The City of Portland, OR groundwater well system has 0.002 ppm arsenic.

■Abrasive blast media from Portland Blast Media located on the northeast corner of the property was collected and analyzed for leachable metals. The concentrations of leachable metals was found to be low. However, the blast media would not be considered suitable for fill, and the blast media should continue to be removed and not incorporated into surface soils.

In summary, the results of our survey did not detect widespread soil contamination associated with prior industrial land use of the subject property. The PAHs and PCBs found in TP-1, and BH-2 are in the range of DEQ cleanup criteria. The delineation of this contamination could be further assessed with limited near surface sampling.

VOC's were reported for groundwater but only at near detection limits. The objective of the sampling was to scan for gross contamination. At near detection limits routine sampling would be required to verify the presence or concentrations of these VOCs in groundwater. If substantiated, considerable testing would be required determine if this was an onsite concern or regional groundwater matter.

In addition, the non-operational well located to the east of the BMWI paint booth should be abandoned in accordance with Oregon Department of Water Resources rules.

Intent and Limitations

By intent, this was an exploratory survey to indicate general site conditions. The sampling is not intended to characterize the site with statistical certainty. This report cannot and does not represent that the site contains no hazardous wastes, toxic materials, or latent conditions beyond those observed. Observations, findings, and opinions are based on the limited data collected.

I would be pleased to provide a briefing at your convenience. Thank you for this opportunity to be of service.

Sincerely,

Dan Saltzman

Dan Saltzman
President

enclosure

FIGURES

FIGURE 1: SUBJECT PROPERTY LOCATION

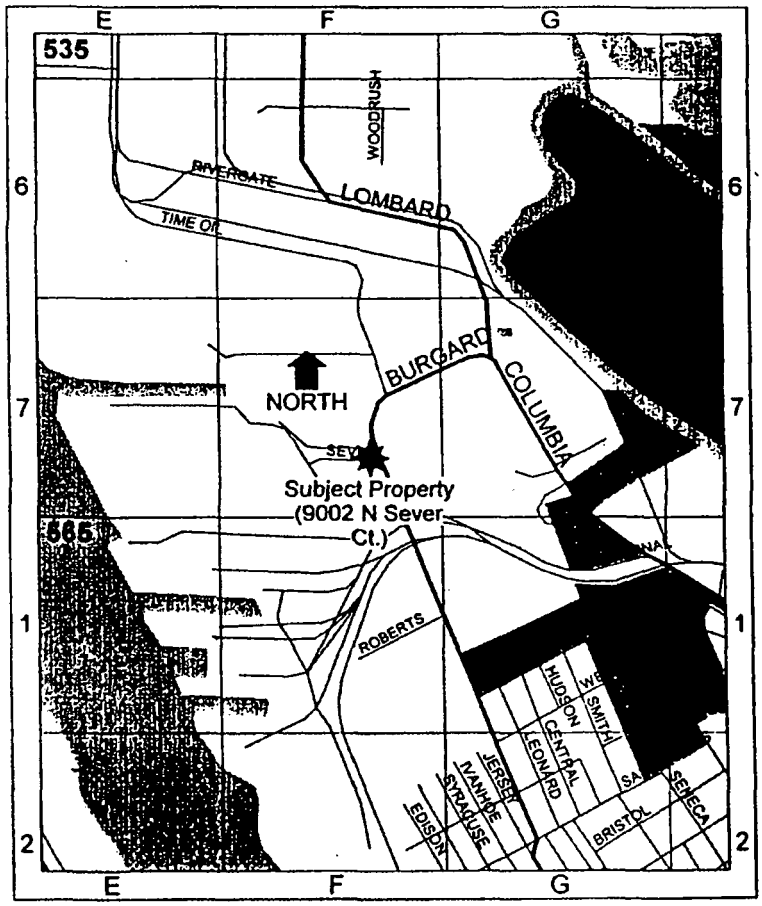
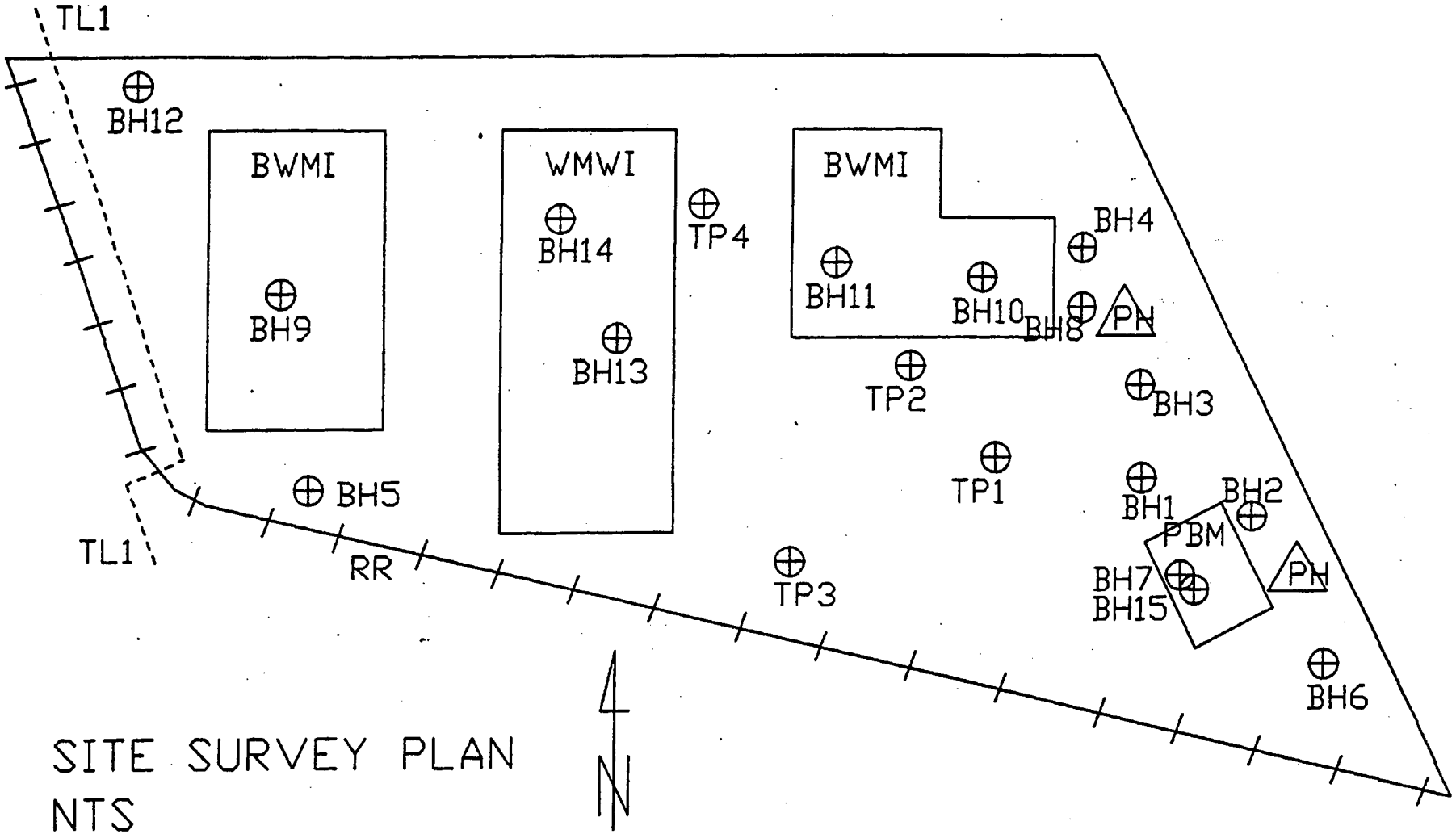


FIGURE 2: SITE DIAGRAM

BH Bore Hole
PH Pump House
TL Trench Line
TP Test Pit
RR Rail Road



SITE SURVEY PLAN
NTS

7

SCHN00151504

TABLES

Table 1

Subsurface Log/Soil Profile

Test Pit From	Depth (in) To	Materials Description	OVM Readings
TP-1			
0	3"	Asphaltic Concrete	
3	12"	Round Rock and Loam	
12	180"	Sand, Fine, Brown	0 ppm
180"		Sand, Fine, Brown	0 ppm
TP-2			
0	3"	Asphaltic Concrete	
3	9"	Crushed Rock & Sand	
9	16"	Round Rock & Sand	0 ppm
16	96"	Sand, Fine, Brown	0 ppm
96"		Sand, Fine, Brown	0 ppm
TP-3			
0	4"	Asphaltic Concrete	
4	8"	Crushed Rock	
8	12"	Round Rock & Loam	0 ppm
12	36"	Silt, Brown W/Decayed Vegetation	0 ppm
36	96"	Sand/Sandy Loam, Brown	0 ppm
96"		Sand/Sandy Loam, Brown	0 ppm

Test Pit From	Depth (in) To	Materials Description	OVM Readings
TP-4			
0	3"	Asphaltic Concrete	
3	4"	Crushed Rock	
4	36"	Sand/Sandy Loam, Brown	0 ppm
36	60"	Silt, Gray	0 ppm
60	96"	Loam, Brown W/ Decayed Vegetation	0 ppm
96"		Loam, Brown W/ Decayed Vegetation	0 ppm

Trench Line From	**Depth (in) To**	**Materials Description**
0	3"	Asphaltic Concrete
3	9"	Base Rock
9	11"	Granular Material, Intermittent
11	60"	Sand, Fine, Brown w/Round Rock
60"		Sand, Fine, Brown w/Round Rock

Table 1

Subsurface Log/Soil Profiles

Borehole From	Depth (in) To	Materials Description	OVM Reading
BH-1			
0	4"	Asphaltic Concrete	
4	18"	Sandy Loam	0 ppm
18	216"	Sand, Fine, Brown	0 ppm
216"		Sand, Fine, Brown	0 ppm
BH-2			
0	12"	Portland Cement Concrete	
12	136"	Sand, Fine, Brown	0 ppm
136"		Sand, Fine, Brown	0 ppm
BH-3			
0	3"	Asphaltic Concrete	
3	9"	Crushed Rock w/Fines	0 ppm
9	240"	Sand, Brown	0 ppm
240"		Sand	0 ppm
BH-4			
0	42"	Loam	0 ppm
42	68"	Round Rock & Sandy Loam	0 ppm
68	108"	Sand, Fine, Brown	0 ppm
108"		Refusal-Rock	

Borehole From	Depth (in) To	Materials Description	OVM Reading
BH-5			
0 4	4" 16"	Asphaltic Concrete Crushed Rock	
16	48"	Sandy Loam, Brown	0 ppm
48	60"	Sand	0 ppm
60	72"	Sandy Silt, Brown/Gray	0 ppm
72	132"	Sand, Brown	0 ppm
132"		Sand, Saturated	0 ppm
BH-6			
0	2"	Abrasive Blast Media	
2	120"	Silty Loam, Brown	0 ppm
120"		Silty Loam, Brown	0 ppm
BH-7			(See Footnote *2)
0	5"	Asphaltic Concrete	
5	14"	Loam	
14"		Refusal - Steel Plate	
BH-8			(See Footnote *2)
0	8"	Loam	
8	180"	Sand, Fine, Brown	
180"		Sand, Fine, Brown	

Borehole From	Depth (in) To	Materials Description	OVM Reading
BH-13			
0	6"	Portland Cement Concrete	
6	12"	Crushed Rock	
12	67"	Silty Loam, Brown	0 ppm
67	76"	Silt, Gray w/Vegetation	0 ppm
76	142"	Silty Loam, Brown	0 ppm
142	155"	Sand, Coarse, Black	0 ppm
155"		Sand, Coarse, Black, Saturated	0 ppm
BH-14			
0	6"	Portland Cement Concrete	
6	12"	Crushed Rock	
12	18"	Round Rock w/Fines	0 ppm
18"		Refusal - Rock	
BH-15			(See Footnote *2)
0	3"	Asphaltic Concrete	
3	12"	Round Rock w/Fines	
12	125"	Loam, Brown	
125"		Loam, Brown	

Footnotes

*1 Ambient air ≤ 1 ppm VOC's due to painting operations in building.

*2 No OVM readings, ambient air > 10 ppm VOC's due to painting operations.

TABLE 2

Laboratory Analysis Summary

Location	Depth (inches)	HCID	VOC's	Semi-VOC's	PCB's	TCLP's	Soluble Metals	Comment	Results
TP-1	3-12"			See Results	Arochlor 1260 @ 15.3 ppm	Ba @ 2.2 ppm Pb @ 40 ppm		Former Materials Lay-Down Area	PAHs see Footnote #1
TP-1	180"								
BH-1	12-18"	ND						Former UST	
BH-1	216"	ND		See Results					*bis(2-Ethylhexyl)phthalate 1.03 ppm* ** See Footnote **, Chrysene 0.07 ppm
BH-2	18-24"		ND	See Results	Arochlor 1260 @ 0.5 ppm	Ba @ 1.0 ppm		Steam Cleaning Area	*bis(2-Ethylhexyl)phthalate 1.03 ppm* **, Di-n-butylphthalate 0.66 ppm.
BH-2	136"	ND	ND	See Results					*bis(2-Ethylhexyl)phthalate 1.26 ppm* **
TP-2	3-9"							Former UST	
TP-2	9-16"			See Results	ND	Ba @ 0.4 ppm			*bis(2-Ethylhexyl)phthalate 1.31 ppm* **
TP-2	96"	ND							
TP-3	8-12"				ND			Former Lay-Down Area	
TP-3	12-36"		See Results	See Results	ND	Ba @ 0.5 ppm			VOC's: Toluene 2.0 ppb, Total Xylenes 2.0 ppb SemiVOC *bis(2-Ethylhexyl)phthalate 1.09 ppm* **
TP-3	96"								
TP-4	4"			See Results	ND	Ba @ 0.8 ppm		Former Lay-Down Area	*bis(2-Ethylhexyl)phthalate 0.98 ppm* **

SCHN00151511

TABLE 2

Laboratory Analysis Summary

Location	Depth (inches)	HCID	VOC's	Semi-VOC's	PCB's	TCLP's	Soluble Metals	Comment	Results
TP-4	96"								
BH-3	3-12"							Former UST	
BH-3	120"	ND							
BH-4	42"	ND	ND	See Results				Former UST Current AST & Solvent Storage Area	Pyrene 0.08 ppm.
BH-4	108"	ND	ND						
BH-5	16-20"			See Results	ND	Ba @ 1.1 ppm		Former Lay-Down Area	*bis(2-Ethylhexyl)phthalate 0.65 ppm* **
BH-5	132"								
BH-6	0-2"							Former RR Repair Area Current Abrasive Blast Area	
BH-6	2-12"				ND	Ba @ 0.7 ppm			
BH-6	120"	ND	ND						
BH-7	5-10"				ND	Ba @ 0.6 ppm		Former RR Repair Area Current Abrasive Blast Area	
BH-8	32"	ND	ND	ND				Former UST Current AST & Solvents	

TABLE 2

Laboratory Analysis Summary

Location	Depth (inches)	HCID	VOC's	Semi-VOC's	PCB's	TCLP's	Soluble Metals	Comment	Results
BH-8	180"	ND	ND	ND					
BH-9	12-22"				ND			BMWI Shop Former Lay-Down Area	
BH-9	116"								
BH-10	120"	ND						BMWI Lube Pit	
BH-11	8-12"				ND			BMWI / Former Salvage Bldg	
BH-12	6-12"			See Results	ND	Ba @ 0.82 ppm		Granular Fill	PAHs See Footnote #2
BH-13	12-16"				ND			WMWI / Former Lay-Down Area	
BH-13	67-72"	ND							
BH-13	155"								
BH-13	(WATER)		See Results				As @ 0.015 ppm		Tetrachloroethylene 1.1 ppb
BH-14	14-18"				ND			WMWI / Former Lay-Down Area	
BH-15	36"							Portland Blast Media Bldg.	
BH-15	120-125"	ND		ND					
BLAST MEDIA									

SCHN00151513

TABLE 2

Laboratory Analysis Summary

Location	Depth (inches)	HCID	VOC's	Semi-VOC's	PCB's	TCLP's	Soluble Metals	Comment	Results
WELL #5			See Results				ND		Tetrachloroethylene 1.4 ppb, 1,1,2-Trichloroethene 3.9 ppb
WELL #5		ND							

FOOTNOTES

#1 Acenapthylene 0.17 ppm, Anthracene 0.09 ppm, Benzo(a)anthracene 0.50 ppm, Benzo(a)pyrene 0.45 ppm, Benzo(b)fluoranthene 0.58 ppm, Benzo(g,h,i)perylene 0.88 ppm, Benzo(k)fluoranthene 0.35 ppm, *bis(2-Ethylhexyl)phthalate 0.87 ppm* **, Chrysene 0.43 ppm, Dibenzo(a,h)anthracene 0.22 ppm, Fluoranthene 0.44 ppm, Indenol(1,2,3-cd)pyrene 0.52 ppm, Phenanthrene 0.30 ppm, Pyrene 0.92 ppm.

#2 Phenanthrene 0.12 ppm, Anthracene 0.06 ppm, Flouranthene 0.42 ppm, Pyene 0.91 ppm, Benzo(a)anthracene 0.28 ppm, Chrysene 0.49 ppm, Benzo(b)fluoranthene 0.56ppm, Benzo(k)fluoranthene 0.32 ppm, Benzo(a)pyrene 0.62 ppm, Indeno(1,2,3-cd)anthracene 0.74 ppm, Dlbenzo(a,h)anthracene 0.09 ppm, Benzo(g,h,l)parylene 0.74 ppm, Napthalene 0.04 ppm, Acenapththylene 0.09 ppm.

** Probable Laboratory Artifact

APPENDIX A:

ENGINEERS REPORT

REGISTERED PROFESSIONAL ENGINEER 13,027 OREGON JULY 26, 1985 STUART L. GREENBERGER

ENGINEER'S REPORT

The attached site map, Figure 2, shows the locations of test pits, boreholes, a utility trench and an industrial well used to assess subsurface site conditions. The locations of the test pits and boreholes were selected to provide a general survey of the site with an emphasis on specific areas of interest related to current and historic land use.

Four test pits TP-1 through TP-4 were excavated with a backhoe, and fifteen boreholes, BH-1 through BH-15, were hand augured. Soil descriptions and organic vapor monitor (OVM) field readings were logged for each excavation and boring. An open utility trench, running the length of the western property line, was also observed. The logs of subsurface soils and OVM readings are presented in Table 1.

Sample collection and analyses were based on land use and field observations as determined by the engineer during test pit and borehole observations. Soil samples were collected and stored per OAR 340-122-345 and transported to AmTest Inc. in Beaverton, Oregon under appropriate chain-of-custody documentation.

Table 2 summarizes the results of the laboratory analyses for volatiles (VOCs), semi-volatiles (Semi-VOCs), polychlorinated biphenyls (PCBs) and petroleum hydrocarbons (TPH-HCID), leachable metals (TCLP-8) and soluble metals. Additionally, Table 2 lists environmental interests, present and historic, specific to the sample location. Laboratory data sheets are attached as Appendix A.

The site is fairly level with a 5 ft downward grade from east to west. A generalized subsurface profile of the site is as follow; the surface is asphalt concrete with a crushed rock base. The asphalt pavement is over a prior surfacing of round and broken rock. In some areas the rock is tightly packed with fines, in other areas the rock has migrated into the underlying soils and in areas there is no prior surfacing. The soils are primarily sands with dispersed areas of silt lenses. Saturated soil and free water was found 12-13 ft below grade, but not at an equivalent 15 foot below grade (corrected for topography) in other areas. There are 4 buildings on site. Seven of the twenty observation holes are from within the buildings.

None of the test pits, boreholes or the utility trench had visible or olfactory indications of contamination, with the possible exception of the near surface material observed in the utility trench and subsequently observed in BH-12. The OVM readings of the test pits and boreholes did not indicate subsurface contamination. (The utility trench was not available for sampling or OVM readings.)

All thirteen soil samples tested for petroleum hydrocarbons were nondetect. Of the eight soil samples analyzed for VOCs only one sample had measurable VOCs and that sample showed toluene and Xylenes each at the detection limit of 2 ppb, which is several orders of magnitude less than the Industrial Maximum Allowable Soil Concentrations as listed in the Oregon

Department of Environmental Quality (DEQ) Soil Cleanup Table, Appendix 1, OAR 340-122-045/046.

Two of the thirteen samples tested for Semi-VOCs showed concentrations at significant levels. The analysis of BH-12 had several compounds, classed as polyaromatic hydrocarbons (PAHs), which in the aggregate are in the range of the Industrial Maximum Allowable Soil Concentrations. Results from a single sample cannot be used to quantitatively assess site conditions; however a site with PAHs above allowable levels could be subject to regulatory cleanup requirements or institutional controls such as maintaining an asphalt cap over the material and otherwise limiting exposure. The sample had particulate inclusions with the appearance of coal tar or petroleum solids.

The Semi-VOCs analysis of TP-1 also showed PAHs which, in the aggregate, are in the range of the Industrial Maximum Allowable Soil Concentrations. This sample also was positive for PCBs and TCLP lead. The combination of these compounds is typically associated with contamination from transformer oil, cutting oil, hydraulic fluid or waste oil containing these materials. The presence of the materials is consistent with historic land use. The concentrations of PCBs and TCLP lead in sample TP-1 are 15.3 ppm and 40 ppm respectively. By comparison, the Industrial Maximum Allowable Soil Concentrations for PCBs is 0.7 ppm and the Oregon Soil Cleanup Table Leachate Reference Concentration for TCLP lead is 2 ppm. Again, a single sample should not be used to qualitatively assess site conditions, however this can be indicative of regulatory action levels.

The lab report of Semi-VOCs also shows several samples at near detection limits for bis(2Ethylhexyl)phthalate. This is thought to be a laboratory artifact. The compound is common to laboratory equipment and it is very improbable that the analyte would be evenly distributed throughout the samples/site.

PCBs were identified in two of the fourteen samples analyzed for the compounds. As previously discussed PCBs were found in the sample TP-1 at a concentrations of 15.3 ppm and PCBs were also found in BH-2 at 0.5 ppm. Again, these concentrations are in the range of regulatory action levels.

Of the nine samples tested for TCLP (8) only one indicated a leachable metal other than barium, and that was lead at 50 ppm, which is above the Leachate Reference Concentration of 2 ppm. This sample was from TP-1 and as previously discussed, this level is thought to be a component of transformer oil, cutting oil, hydraulic oil or waste oils. All samples had barium concentrations at naturally occurring background levels.

Two water samples were collected, one from BH-13 and the other from the onsite industrial well PH-5. The borehole and well samples analysis showed tetrachloroethylene (PCE) at 1.1 ppb and 1.4 ppb respectively. The well water analysis additionally showed trichloroethene at 3.9 ppb. The drinking water standard for PCE is 5 ppb and the Oregon Soil Cleanup Table Groundwater Reference Concentration for PCE is 2 ppb. At these near detection limits, routine sampling would be necessary to confirm the presence or concentrations of these VOCs. Even if substantiated, considerable testing would be necessary to determine if this is an onsite concern or

regional groundwater issue. The well water was tested and reported nondetect for TPH-HCID. The well water sample was a running sample collected from the pump house discharge pipe

The borehole and well samples were also tested for soluble metals. The borehole sample had 0.015 ppm arsenic. By comparison the interim drinking water standard is 0.05 whereas the Ground Water Reference Concentration is 0.00004 ppm. The City of Portland, OR groundwater well system report 0.002 ppm arsenic.

A composite sample of the abrasive blast media from the northeast corner of the property was collected and analyzed for leachable metals. The blast media is said to contain an additive to immobilize the metals and the concentrations of leachable metals was found to be low, which has utility in regard to hazardous waste handling. However, the blast media would not be considered suitable as fill due to leachable arsenic and total metals, therefore the blast media should continue to be removed and not incorporated into surface soils.

In summary, this limited investigation entailed a supervised survey for industrial contamination. Based upon the observations of the test pits and boreholes and subsequent laboratory analyses we did not detect widespread gross contamination associated with historic land use of the property.

We did identify a sample with PAHs that might be further associated with surfacing materials noted in the utility trench on the west side of the property. We also identified two samples with PCBs that are thought to be due to transformer, cutting, hydraulic or waste oil.

The PAHs and PCBs appear to be limited in extent. Often these compounds are detected throughout industrial sites. In this instance, PAHs were found in two of thirteen samples tested for VOCs, and PCBs were found in two of fourteen samples. The PAHs and PCBs found are in the range of DEQ cleanup criteria. The delineation of the contamination could be further assessed with limited near surface sampling.

VOCs were reported for groundwater but only at near detection limits. The objective of the sampling was to scan for gross contamination. At near detection limits routine sampling would be required to confirm the presence or concentrations of these VOCs. Even if substantiated, considerable testing would be necessary to determine if this was an onsite concern or regional groundwater matter.

Two industrial wells were noted onsite. The eastern well is non-operational and should be abandoned in accordance with OAR/Oregon Department of Water Resources Department Rules.

APPENDIX B:

CHAIN OF CUSTODY DOCUMENTS & LABORATORY ANALYSIS REPORTS

(23)

CHAIN OF CUSTODY RECORD

AMTEST OREGON L.L.C.

Professional Laboratory Services
9205 S.W. Nimbus Ave.
Beaverton, OR 97008
Tel 503 626 7424
Fax 503 643 1460

Date Received:

Project Manager: THOR HINCKLEY
Company Name: ENVIRONMENTAL MANAGEMENT SOLUTIONS
Address: 1800 SE FIRST ST #510
City, State, ZIP: PORTLAND OR 97201
Phone: 225 9060
FAX: 273 8612

P.O. # or Project #:
Project Name: BMWI
Project Location:
Sampling Date:

Lab Project Number: 33006-33
Lab Location: 27/34

RUSH? YES NO

LAB USE ONLY	SAMPLE IDENTIFICATION			SAMPLE MATRIX	ANALYSIS REQUIRED
33006	TP1	3-12"	11/21/97	SOIL	PCB/TCLP/~~8020~~
33007	TP1	180"			
33008	BH1	12-18"			HCID
33009	BH1	216"			HCID/ ~~8020~~ 8270
33010	BH2	18-24"			PCB/TCLP(B)/~~8010~~/8260
33011	BH2	136"			HCID/ ~~8010~~ 8260/ ~~8020~~
33012	TP2	3-9"	11/22/97		~~8020/PCB/TCLP(B)~~
33013	TP2	9-16"			8270 ~~8020~~/PCB/TCLP(B)
33014	TP2	96"			HCID
33015	TP3	8-12"			PCB
33016	TP3	12-36"			8260/8270 ~~8010/8020~~/PCB/TCLP
33017	TP3	96"			
33018	TP4	4"			8270 ~~8020~~ ~~8010/8020~~/PCB/TCLP

LAB USE ONLY

Additional Analyses:
Requested By:
Date:

Relinquished By	Date/Time	Received By	Date/Time
[signature]	11/26/97 9AM	[signature]	11/26/97 10:00
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

CHAIN2 JLB 1/2/97

(24)

CHAIN OF CUSTODY RECORD

AMTEST OREGON L.L.C.

Professional Laboratory Services
9205 S.W. Nimbus Ave.
Beaverton, OR 97008
Tel 503 626 7424
Fax 503 643 1460

Date Received:

Project Manager: THOR HINCKLEY
Company Name: ENVIRONMENTAL MANAGEMENT SOLUTIONS
Address: 1800 SE FIRST ST #510
City, State, ZIP: PORTLAND OR 97201
Phone: 225 9060
FAX: 273 8612

P.O. # or Project #:
Project Name: BMWI
Project Location:
Sampling Date:

Lab Project Number: 33006-33
Lab Location: 27/34
RUSH? YES NO

LAB USE ONLY	SAMPLE IDENTIFICATION			SAMPLE MATRIX	ANALYSIS REQUIRED
33019	TP4	96"	11/22/97	SOIL	
33020	BH3	3-12"	11/25/97		
33021	BH3	120"			HCID
33022	BH4	42"			HCID/~~8010~~ 8260/8270 ~~8020~~
33023	BH4	108"			HCID/~~8010~~ 8260
33024	BH5	16-20"			8270 ~~8020~~/PCB/TCLP
33025	BH5 REP1	132"		SATURATED SOIL	
33026	BH5 REP2	132"		SOIL	
33027	BH5 REP3	132"		SOIL	
33028	BH6	0-2"		BLAST MEDIA	
33029	BH6	2-12"		SOIL	PCB/TCLP(8)
33030	BH6	120"			HCID/~~8010~~ 8260
33031	BH7	5-10"			PCB/TCLP

LAB USE ONLY

Additional Analyses:
Requested By:
Date:

Relinquished By	Date/Time	Received By	Date/Time
[signature]	11/26/97 9AM	[signature]	11/26/97 10:00
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

CHAIN2.XLS 1/2/97

SCHN00151521

(25)

CHAIN OF CUSTODY RECORD

AviTEST OREGON L.L.C.
Professional Laboratory Services
9205 S.W. Nimbus Ave.
Beaverton, OR 97008
Tel 503 626 7424
Fax 503 643 1460

Date Received:

Project Manager: THOR HINCKLEY
Company Name: ENVIRONMENTAL MANAGEMENT SOLUTIONS
Address: 1800 SE FIRST ST #510
City, State, ZIP: PORTLAND OR 97201
Phone: 225 9060
FAX: 273 8612

P.O. # or Project #:
Project Name: BMWI
Project Location:
Sampling Date:

Lab Project Number: 33606-03
Lab Location: 27154
RUSH? YES NO

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE MATRIX	ANALYSIS REQUIRED
33632	BH 8 32"	SOIL	HCID/~~8010~~/~~8020~~ 8260/8270
33633	BH 8 180"	SOIL	HCID/~~8010~~/~~8020~~ 8260/8270

LAB USE ONLY

Additional Analyses:
Requested By:
Date:

Relinquished By	Date/Time	Received By	Date/Time
Schubert	11/26/97 9AM	[illegible]	11/26/97 10:00
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

CHAIN.XLS 1/2/97

SCHN00151522

(26)

AMTEST OREGON L.L.C.

Professional Laboratory Services

9205 S.W. Nimbus Ave.
Beaverton, OR 97008

Tel 503 626 7424
Fax 503 643 1460

ANALYSIS REPORT

CLIENT
Thor Hinckley
Environmental Management Solutions
1800 S.W. First St. #510
Portland OR 97201

Date Received: 11/26/97
Date Analyzed: 12/3/97
Date Reported: 12/4/97
Job Number: 33006-33
Page: 1

Project - BMWI
Sample Type - Soil

Lab Number	Client Identification	Analysis - TPH-HCID Results			
		Gasoline	Diesel	Other*	Surrogates Recovery %
33008	BH1 12-18"	ND	ND	ND	105/118
33009	BH1 216"	ND	ND	ND	103/95
33011	BH2 136"	ND	ND	ND	114/122
33011-Dup	BH2 136"	ND	ND	ND	108/108
33014	TP2 96"	ND	ND	ND	120/134
33021	BH3 120"	ND	ND	ND	113/105
33022	BH4 42"	ND	ND	ND	99/108
33023	BH4 108"	ND	ND	ND	101/101
33030	BH6 120"	ND	ND	ND	96/111
33032	BH8 32"	ND	ND	ND	100/81
33033	BH8 180"	ND	ND	ND	107/96
Lab Blank	12/3/97	ND	ND	ND	93/92

ND = None Detected
Detection Limits: Gasoline - 20 mg/kg; Diesel - 50 mg/kg; Other* - 100 mg/Kg

*Higher boiling petroleum products

Reported By _____

QA Check _____

Ems330h 12/4/97

Greg Bolt
Laboratory Director

SCHN00151523

ANALYSIS REPORT

(27)

CLIENT
Thor Hinckley
Environmental Management Solutions
3445 N.W. Front St.
Portland OR 97201

AMTEST OREGON L.L.C.

Professional Laboratory Services
9205 S.W. Nimbus Ave.
Beaverton, OR 97008
Tel 503 626 7424
Fax 503 643 1460

Date Received: 11/26/97
Date Analyzed: 12/3/97
Date Reported: 12/4/97
Job Number: 33006-33
Page: 2

Analysis - GC/MS Volatiles (EPA Method 8260)
Sample Type - Soil
Project - BMWI

Laboratory Sample Number	33010	33011	33016		Reporting
Client Identification	BH2 18-24"	BH2 136"	TP3 12-36"	Blank	Limit
Compound	ug/Kg(ppb)	ug/Kg(ppb)	ug/Kg(ppb)	ug/Kg(ppb)	ug/Kg(ppb)
Acetone	ND	ND	ND	ND	125
Benzene	ND	ND	ND	ND	2
Bromodichloromethane	ND	ND	ND	ND	2
Bromomethane	ND	ND	ND	ND	2
Bromoform	ND	ND	ND	ND	2
Carbon Disulfide	ND	ND	ND	ND	125
Carbon Tetrachloride	ND	ND	ND	ND	2
Chlorobenzene	ND	ND	ND	ND	2
Chlorodibromomethane	ND	ND	ND	ND	2
Chloroethane	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	2
Chloromethane	ND	ND	ND	ND	2
cis-1,3-Dichloropropene	ND	ND	ND	ND	2
Ethyl Benzene	ND	ND	ND	ND	2
Methylene Chloride	ND	ND	ND	ND	20
Styrene	ND	ND	ND	ND	2
Tetrachloroethylene	ND	ND	ND	ND	2
Toluene	ND	ND	2	ND	2
Total Xylenes	ND	ND	2	ND	2
trans-1,3-Dichloropropene	ND	ND	ND	ND	2
Trichlorofluoromethane	ND	ND	ND	ND	5
Vinyl Acetate	ND	ND	ND	ND	125
Vinyl Chloride	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	2
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	2
1,1,2-Trichloroethane	ND	ND	ND	ND	2
1,1,2-Trichloroethene	ND	ND	ND	ND	2
1,1-Dichloroethane	ND	ND	ND	ND	2
1,1-Dichloroethene	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	2
1,2-Dichloroethylene	ND	ND	ND	ND	2
1,2-Dichloropropane	ND	ND	ND	ND	2
1,2-Dichlorobenzene	ND	ND	ND	ND	2
1,3-Dichlorobenzene	ND	ND	ND	ND	2
1,4-Dichlorobenzene	ND	ND	ND	ND	2
2-Chloroethylvinyl ether	ND	ND	ND	ND	5
2-Butanone (MEK)	ND	ND	ND	ND	125
2-Hexanone	ND	ND	ND	ND	125
4-Methyl-2-Pentanone (MIBK)	ND	ND	ND	ND	125
Surrogate Recovery %:					Acceptance Limits:
d4-1,2-Dichloroethane	102	106	98	105	70-121 %
d8-Toluene	98	99	98	98	80-117 %
4-Bromofluorobenzene	92	99	87	98	74-121 %

ND = None Detected

Reported By

Greg Bolt
Laboratory Director

Ems330v2 12/4/97

SCHN00151524

ANALYSIS REPORT

(28)

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Date Received: 11/26/97
Date Analyzed: 12/3/97
Date Reported: 12/4/97
Job Number: 33006-33
Page: 3

Analysis - GC/MS Volatiles (EPA Method 8260)
Sample Type - Soil
Project - BMWI

Laboratory Sample Number	33022	33022-Dup		Reporting	Matrix(33022)
Client Identification	BH4 42'	BH4 42'	Blank	Limit	Spike
Compound	ug/Kg(ppb)	ug/Kg(ppb)	ug/Kg(ppb)	ug/Kg(ppb)	% Recovery
Acetone	ND	ND	ND	125	
Benzene	ND	ND	ND	2	73
Bromodichloromethane	ND	ND	ND	2	72
Bromomethane	ND	ND	ND	2	
Bromoform	ND	ND	ND	2	62
Carbon Disulfide	ND	ND	ND	125	
Carbon Tetrachloride	ND	ND	ND	2	75
Chlorobenzene	ND	ND	ND	2	70
Chlorodibromomethane	ND	ND	ND	2	65
Chloroethane	ND	ND	ND	5	
Chloroform	ND	ND	ND	2	77
Chloromethane	ND	ND	ND	2	
cis-1,3-Dichloropropene	ND	ND	ND	2	62
Ethyl Benzene	ND	ND	ND	2	69
Methylene Chloride	ND	ND	ND	20	107
Styrene	ND	ND	ND	2	
Tetrachloroethylene	ND	ND	ND	2	76
Toluene	ND	ND	ND	2	71
Total Xylenes	ND	ND	ND	2	60
trans-1,3-Dichloropropene	ND	ND	ND	2	69
Trichlorofluoromethane	ND	ND	ND	5	
Vinyl Acetate	ND	ND	ND	125	
Vinyl Chloride	ND	ND	ND	5	
1,1,1-Trichloroethane	ND	ND	ND	2	80
1,1,2,2-Tetrachloroethane	ND	ND	ND	2	70
1,1,2-Trichloroethane	ND	ND	ND	2	64
1,1,2-Trichloroethene	ND	ND	ND	2	76
1,1-Dichloroethane	ND	ND	ND	2	76
1,1-Dichloroethene	ND	ND	ND	5	
1,2-Dichloroethane	ND	ND	ND	2	67
1,2-Dichloroethylene	ND	ND	ND	2	73
1,2-Dichloropropane	ND	ND	ND	2	73
1,2-Dichlorobenzene	ND	ND	ND	2	63
1,3-Dichlorobenzene	ND	ND	ND	2	65
1,4-Dichlorobenzene	ND	ND	ND	2	66
2-Chloroethylvinyl ether	ND	ND	ND	5	
2-Butanone (MEK)	ND	ND	ND	125	
2-Hexanone	ND	ND	ND	125	
4-Methyl-2-Pentanone (MIBK)	ND	ND	ND	125	

Surrogate Recovery %:				Acceptance Limits:
d4-1,2-Dichloroethane	104	121	105	70-121 %
d8-Toluene	90	92	98	80-117 %
4-Bromofluorobenzene	96	105	98	74-121 %

ND = None Detected

Reported By

Greg Bolt
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Ems330v1 12/4/97

SCHN00151525

ANALYSIS REPORT

(29)

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Date Analyzed: 12/3/97
Date Reported: 12/4/97
Job Number: 33006-33
Page: 4

Analysis - GC/MS Volatiles (EPA Method 8260)
Sample Type - Soil
Project - BMWI

Laboratory Sample Number	33023	33030	33032	33033	Reporting
Client Identification	BH4 108"	BH6 120"	BH8 32"	BH8 180"	Limit
Compound	ug/Kg(ppb)	ug/Kg(ppb)	ug/Kg(ppb)	ug/Kg(ppb)	ug/Kg(ppb)
Acetone	ND	ND	ND	ND	125
Benzene	ND	ND	ND	ND	2
Bromodichloromethane	ND	ND	ND	ND	2
Bromomethane	ND	ND	ND	ND	2
Bromoform	ND	ND	ND	ND	2
Carbon Disulfide	ND	ND	ND	ND	125
Carbon Tetrachloride	ND	ND	ND	ND	2
Chlorobenzene	ND	ND	ND	ND	2
Chlorodibromomethane	ND	ND	ND	ND	2
Chloroethane	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	2
Chloromethane	ND	ND	ND	ND	2
cis-1,3-Dichloropropene	ND	ND	ND	ND	2
Ethyl Benzene	ND	ND	ND	ND	2
Methylene Chloride	ND	ND	ND	ND	20
Styrene	ND	ND	ND	ND	2
Tetrachloroethylene	ND	ND	ND	ND	2
Toluene	ND	ND	ND	ND	2
Total Xylenes	ND	ND	ND	ND	2
trans-1,3-Dichloropropene	ND	ND	ND	ND	2
Trichlorofluoromethane	ND	ND	ND	ND	5
Vinyl Acetate	ND	ND	ND	ND	125
Vinyl Chloride	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	2
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	2
1,1,2-Trichloroethane	ND	ND	ND	ND	2
1,1,2-Trichloroethene	ND	ND	ND	ND	2
1,1-Dichloroethane	ND	ND	ND	ND	2
1,1-Dichloroethene	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	2
1,2-Dichloroethylene	ND	ND	ND	ND	2
1,2-Dichloropropane	ND	ND	ND	ND	2
1,2-Dichlorobenzene	ND	ND	ND	ND	2
1,3-Dichlorobenzene	ND	ND	ND	ND	2
1,4-Dichlorobenzene	ND	ND	ND	ND	2
2-Chloroethylvinyl ether	ND	ND	ND	ND	5
2-Butanone (MEK)	ND	ND	ND	ND	125
2-Hexanone	ND	ND	ND	ND	125
4-Methyl-2-Pentanone (MIBK)	ND	ND	ND	ND	125

Surrogate Recovery %:					Acceptance Limits:
d4-1,2-Dichloroethane	130	82	105	130	70-121 %
d8-Toluene	101	95	90	127	80-117 %
4-Bromofluorobenzene	102	80	110	123	74-121 %

ND = None Detected

Reported By

Greg Bolt
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Eme330v3 12/4/97

SCHN00151526

ANALYSIS REPORT

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Date Received: 11/26/97
Date Analyzed: 12/5/97
Date Reported: 12/8/97

Analysis - Semi-Volatile Organics (EPA Method 8270)
Sample Type - Soil
Project - BMWI

Job Number: 33006-33
Page: 5a

Laboratory Sample Number	33006	33009	Detection	Extraction	Matrix
Client Identification	TP1 3-12"	BH1 216"	Limit	Blank	Spike
Compound	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	% Recovery
Acenaphthene	ND	ND	0.05	ND	82
Acenaphthylene	0.17	ND	0.05	ND	69
Anthracene	0.09	ND	0.05	ND	76
Benzidine	ND	ND	0.25	ND	
Benzo(a)anthracene	0.50	ND	0.05	ND	77
Benzo(a)pyrene	0.45	ND	0.05	ND	79
Benzo(b)fluoranthene	0.58	ND	0.05	ND	86
Benzo(g,h,i)perylene	0.88	ND	0.05	ND	88
Benzo(k)fluoranthene	0.35	ND	0.05	ND	82
bis(2-Chloroethoxy)methane	ND	ND	0.05	ND	68
bis(2-Chloroethyl)ether	ND	ND	0.05	ND	76
bis(2-Chloroisopropyl)ether	ND	ND	0.25	ND	
bis(2-Ethylhexyl)phthalate	0.87	1.03	0.5	ND	119
Butylbenzylphthalate	ND	ND	0.05	ND	113
Chrysene	0.43	0.07	0.05	ND	77
Di-n-butylphthalate	ND	ND	0.1	ND	89
Di-n-octylphthalate	ND	ND	0.05	ND	125
Dibenzo(a,h)anthracene	0.22	ND	0.05	ND	83
Diethylphthalate	ND	ND	0.05	ND	86
Dimethylphthalate	ND	ND	0.05	ND	84
Fluoranthene	0.44	ND	0.05	ND	84
Fluorene	ND	ND	0.05	ND	86
Hexachlorobenzene	ND	ND	0.05	ND	82
Hexachlorobutadiene	ND	ND	0.05	ND	78
Hexachlorocyclopentadiene	ND	ND	0.05	ND	45
Hexachloroethane	ND	ND	0.05	ND	72

ND = None Detected

QC Information: Surrogate Recovery %

2-Fluorobiphenyl	57	79	82	76

Reported By

QA Check

Greg Bolt
Greg Bolt
Laboratory Director

EMS3305A1 12/8/97

SCHN00151527

ANALYSIS REPORT

(31)

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Date Received: 11/26/97
Date Analyzed: 12/5/97
Date Reported: 12/8/97

Analysis - Semi-Volatile Organics (EPA Method 8270)
Sample Type - Soil
Project - BMWI

Job Number: 33006-33
Page: 5b

Laboratory Sample Number	33006	33009	Detection	Extraction	Matrix
Client Identification	TP1 3-12"	BH1 216"	Limit	Blank	Spike
Compound	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	% Recovery
Indeno(1,2,3-cd)pyrene	0.52	ND	0.05	ND	73
Isophorone	ND	ND	0.05	ND	70
n-Nitroso-di-n-propylamine	ND	ND	0.05	ND	70
n-Nitrosodiphenylamine	ND	ND	0.05	ND	80
Naphthalene	ND	ND	0.05	ND	70
Nitrobenzene	ND	ND	0.05	ND	71
Pentachlorophenol	ND	ND	0.05	ND	43
Phenanthrene	0.30	ND	0.05	ND	84
Phenol	ND	ND	0.05	ND	57
Pyrene	0.92	ND	0.05	ND	67
1,2,4-Trichlorobenzene	ND	ND	0.05	ND	84
1,2-Dichlorobenzene	ND	ND	0.05	ND	75
1,3-Dichlorobenzene	ND	ND	0.05	ND	72
1,4-Dichlorobenzene	ND	ND	0.05	ND	72
2,4,6-Trichlorophenol	ND	ND	0.05	ND	68
2,4-Dichlorophenol	ND	ND	0.05	ND	61
2,4-Dimethylphenol	ND	ND	0.05	ND	51
2,4-Dinitrophenol	ND	ND	0.25	ND	
2,4-Dinitrotoluene	ND	ND	0.05	ND	71
2,6-Dinitrotoluene	ND	ND	0.05	ND	75
2-Chloronaphthalene	ND	ND	0.05	ND	80
2-Chlorophenol	ND	ND	0.05	ND	54
2-Nitrophenol	ND	ND	0.05	ND	51
3,3-Dichlorobenzidine	ND	ND	0.25	ND	
4,6-Dinitro-2-methylphenol	ND	ND	0.05	ND	26
4-Bromophenyl-phenyl ether	ND	ND	0.05	ND	84
4-Chloro-3-methylphenol	ND	ND	0.05	ND	64
4-Chlorophenyl-phenyl ether	ND	ND	0.05	ND	85
4-Nitrophenol	ND	ND	0.05	ND	49

ND = None Detected

QC Information: Surrogate Recovery %

2,4,6-Tribromophenol	51	85	87	91

Reported By

QA Check

Greg Bolt
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EMS330Sb1 12/8/97

SCHN00151528

ANALYSIS REPORT

(32)

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Date Received: 11/26/97
Date Analyzed: 12/5/97
Date Reported: 12/8/97

Job Number: 33006-33
Page: 6a

Analysis - Semi-Volatile Organics (EPA Method 8270)
Sample Type - Soil
Project - BMWI

Laboratory Sample Number	33010	33011	33013	33016	33018	Detection Limit
Client Identification	BH2 18-24"	BH2 136"	TP2 9-16"	TP3 12-36"	TP4 4"	
Compound	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Acenaphthene	ND	ND	ND	ND	ND	0.05
Acenaphthylene	ND	ND	ND	ND	ND	0.05
Anthracene	ND	ND	ND	ND	ND	0.05
Benzidine	ND	ND	ND	ND	ND	0.25
Benzo(a)anthracene	ND	ND	ND	ND	ND	0.05
Benzo(a)pyrene	ND	ND	ND	ND	ND	0.05
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	0.05
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	0.05
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	0.05
bis(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	0.05
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	0.05
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	0.25
bis(2-Ethylhexyl)phthalate	1.03	1.26	1.31	1.09	0.98	0.5
Butylbenzylphthalate	ND	ND	ND	ND	ND	0.05
Chrysene	ND	ND	ND	ND	ND	0.05
Di-n-butylphthalate	0.66	ND	ND	ND	ND	0.1
Di-n-octylphthalate	ND	ND	ND	ND	ND	0.05
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	0.05
Diethylphthalate	ND	ND	ND	ND	ND	0.05
Dimethylphthalate	ND	ND	ND	ND	ND	0.05
Fluoranthene	ND	ND	ND	ND	ND	0.05
Fluorene	ND	ND	ND	ND	ND	0.05
Hexachlorobenzene	ND	ND	ND	ND	ND	0.05
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.05
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	0.05
Hexachloroethane	ND	ND	ND	ND	ND	0.05

ND = None Detected

QC Information: Surrogate Recovery %					
2-Fluorobiphenyl	84	73	89	72	89

D
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GB
QA Check

Greg Bolt
Greg Bolt
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EMS330SA2 12/8/97

SCHN00151529

ANALYSIS REPORT

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Date Received: 11/26/97
Date Analyzed: 12/5/97
Date Reported: 12/8/97

Analysis - Semi-Volatile Organics (EPA Method 8270)
Sample Type - Soil
Project - BMWI

Job Number: 33006-33
Page: 6b

Laboratory Sample Number	33010	33011	33013	33016	33018	Detection
Client Identification	BH2 18-24"	BH2 136"	TP2 9-16"	TP3 12-36"	TP4 4"	Limit
Compound	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	0.05
Isophorone	ND	ND	ND	ND	ND	0.05
n-Nitroso-di-n-propylamine	ND	ND	ND	ND	ND	0.05
n-Nitrosodiphenylamine	ND	ND	ND	ND	ND	0.05
Naphthalene	ND	ND	ND	ND	ND	0.05
Nitrobenzene	ND	ND	ND	ND	ND	0.05
Pentachlorophenol	ND	ND	ND	ND	ND	0.05
Phenanthrene	ND	ND	ND	ND	ND	0.05
Phenol	ND	ND	ND	ND	ND	0.05
Pyrene	ND	ND	ND	ND	ND	0.05
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.05
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	0.05
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.05
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.05
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	0.05
2,4-Dichlorophenol	ND	ND	ND	ND	ND	0.05
2,4-Dimethylphenol	ND	ND	ND	ND	ND	0.05
2,4-Dinitrophenol	ND	ND	ND	ND	ND	0.25
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	0.05
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	0.05
2-Chloronaphthalene	ND	ND	ND	ND	ND	0.05
2-Chlorophenol	ND	ND	ND	ND	ND	0.05
2-Nitrophenol	ND	ND	ND	ND	ND	0.05
3,3-Dichlorobenzidine	ND	ND	ND	ND	ND	0.25
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	0.05
4-Bromophenyl-phenyl ether	ND	ND	ND	ND	ND	0.05
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	0.05
4-Chlorophenyl-phenyl ether	ND	ND	ND	ND	ND	0.05
4-Nitrophenol	ND	ND	ND	ND	ND	0.05

ND = None Detected

QC Information: Surrogate Recovery %

2,4,6-Tribromophenol	74	57	74	66	76

P
Reported By
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QA Check

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EMS330SB2 12/8/97

SCHN00151530

ANALYSIS REPORT

(34)

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Date Received: 11/26/97
Date Analyzed: 12/5/97
Date Reported: 12/8/97

Analysis - Semi-Volatile Organics (EPA Method 8270)
Sample Type - Soil
Project - BMWI

Job Number: 33006-33
Page: 7a

Laboratory Sample Number	33022	33024	33032	33033	33033-Dup	Detection
Client Identification	BH4 42"	BH5 16-20"	BH8 32"	BH8 180"	BH8 180"	Limit
Compound	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Acenaphthene	ND	ND	ND	ND	ND	0.05
Acenaphthylene	ND	ND	ND	ND	ND	0.05
Anthracene	ND	ND	ND	ND	ND	0.05
Benzidine	ND	ND	ND	ND	ND	0.25
Benzo(a)anthracene	ND	ND	ND	ND	ND	0.05
Benzo(a)pyrene	ND	ND	ND	ND	ND	0.05
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	0.05
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	0.05
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	0.05
bis(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	0.05
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	0.05
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	0.25
bis(2-Ethylhexyl)phthalate	ND	0.65	ND	ND	ND	0.5
Butylbenzylphthalate	ND	ND	ND	ND	ND	0.05
Chrysene	ND	ND	ND	ND	ND	0.05
Di-n-butylphthalate	ND	ND	ND	ND	ND	0.1
Di-n-octylphthalate	ND	ND	ND	ND	ND	0.05
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	0.05
Diethylphthalate	ND	ND	ND	ND	ND	0.05
Dimethylphthalate	ND	ND	ND	ND	ND	0.05
Fluoranthene	ND	ND	ND	ND	ND	0.05
Fluorene	ND	ND	ND	ND	ND	0.05
Hexachlorobenzene	ND	ND	ND	ND	ND	0.05
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.05
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	0.05
Hexachloroethane	ND	ND	ND	ND	ND	0.05

ND = None Detected

QC Information: Surrogate Recovery %

2-Fluorobiphenyl	81	70	35	82	69

Reported By

QA Check

Greg Bolt
Laboratory Director

EMS330SA3 12/8/97

SCHN00151531

ANALYSIS REPORT

(35)

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L Thor Hinckley
I Environmental Management Solutions
E 3445 N.W. Front St.
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AMTEST OREGON L.L.C.

Professional Laboratory Services
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Date Received: 11/26/97
Date Analyzed: 12/5/97
Date Reported: 12/8/97

Analysis - Semi-Volatile Organics (EPA Method 8270)
Sample Type - Soil
Project - BMWI

Job Number: 33006-33
Page: 7b

Laboratory Sample Number	33022	33024	33032	33033	33033-Dup	Detection
Client Identification	BH4 42"	BH5 16-20"	BH8 32"	BH8 180"	BH8 180"	Limit
Compound	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	0.05
Isophorone	ND	ND	ND	ND	ND	0.05
n-Nitroso-di-n-propylamine	ND	ND	ND	ND	ND	0.05
n-Nitrosodiphenylamine	ND	ND	ND	ND	ND	0.05
Naphthalene	ND	ND	ND	ND	ND	0.05
Nitrobenzene	ND	ND	ND	ND	ND	0.05
Pentachlorophenol	ND	ND	ND	ND	ND	0.05
Phenanthrene	ND	ND	ND	ND	ND	0.05
Phenol	ND	ND	ND	ND	ND	0.05
Pyrene	0.08	ND	ND	ND	ND	0.05
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.05
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	0.05
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.05
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.05
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	0.05
2,4-Dichlorophenol	ND	ND	ND	ND	ND	0.05
2,4-Dimethylphenol	ND	ND	ND	ND	ND	0.05
2,4-Dinitrophenol	ND	ND	ND	ND	ND	0.25
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	0.05
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	0.05
2-Chloronaphthalene	ND	ND	ND	ND	ND	0.05
2-Chlorophenol	ND	ND	ND	ND	ND	0.05
2-Nitrophenol	ND	ND	ND	ND	ND	0.05
3,3-Dichlorobenzidine	ND	ND	ND	ND	ND	0.25
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	0.05
4-Bromophenyl-phenyl ether	ND	ND	ND	ND	ND	0.05
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	0.05
4-Chlorophenyl-phenyl ether	ND	ND	ND	ND	ND	0.05
4-Nitrophenol	ND	ND	ND	ND	ND	0.05

ND = None Detected

QC Information: Surrogate Recovery %					
2,4,6-Tribromophenol	72	61	15	58	47

D
Reported By

GB
QA Check

Greg Bolt
Greg Bolt
Laboratory Director

EMS330S83 12/8/97

SCHN00151532

(36)

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ANALYSIS REPORT

CLIENT
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Date Received: 11/26/97
Date Analyzed: 12/2/97
Date Reported: 12/9/97
Job Number: 33006-33
Page: 8

Analysis - PCBs (EPA Method 8080)

Project - BMWI
Sample Type - Soil

Laboratory Sample #	33006	33010	33013	33015	33016		Detection
Client Identification	TP1 3-12"	BH2 18-24"	TP2 9-18"	TP3 8-12"	TP3 12-36"	Blank	Limit
PCB's	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Arochlor 1016	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1221	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1232	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1242	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1248	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1254	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1260	15.3	0.5	ND	ND	ND	ND	0.3
Surrogate % Recovery	77	79	82	82	80	89	

ND = None Detected

Reported By

GB
QA Check

Greg Bolt
Laboratory Director

Eme330pc 12/8/97

SCHN00151533

(37)

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ANALYSIS REPORT

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Date Received: 11/26/97
Date Analyzed: 12/2/97
Date Reported: 12/9/97
Job Number: 33006-33
Page: 9

Analysis - PCBs (EPA Method 8080)

Project - BMWI
Sample Type - Soil

Laboratory Sample #	33018	33024	33029	33031	33031-Dup		Detection
Client Identification	TP4 4"	BH5 16-20"	BH6 2-12"	BH7 5-10"	BH7 5-10"	Blank	Limit
PCB's	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Arochlor 1016	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1221	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1232	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1242	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1248	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1254	ND	ND	ND	ND	ND	ND	0.3
Arochlor 1260	ND	ND	ND	ND	ND	ND	0.3
Surrogate % Recovery	93	100	82	112	125	89	

ND = None Detected

Reported By

GB
QA Check

Greg Bolt
Greg Bolt
Laboratory Director

EMS330PC2 12/9/97

SCHN00151534

(38)

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ANALYSIS REPORT

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Date Received: 11/26/97
Date Analyzed: 12/9/97
Date Reported: 12/10/97
Job Number: 33006-33
Page: 10

Analysis -TCLP Metals 8 (EPA 7000 Series)
Sample Type - Soil

Project - BMWI

Lab Sample #	33006	33010	33013	33016	33018	Quality Control Information		
Client I.D.	TP1 3-12"	BH2 18-24"	TP2 9-16"	TP3 12-36"	TP4 4"	Detection Limit	Digestion Blank	Matrix Spike
Metal	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	% Recovery
Arsenic	ND	ND	ND	ND	ND	0.02	ND	109
Barium	2.2	1.0	0.4	0.5	0.8	0.1	ND	105
Cadmium	ND	ND	ND	ND	ND	0.02	ND	107
Chromium	ND	ND	ND	ND	ND	0.05	ND	98
Lead	40	ND	ND	ND	ND	0.05	ND	107
Mercury	ND	ND	ND	ND	ND	0.002	ND	101
Selenium	ND	ND	ND	ND	ND	0.02	ND	105
Silver	ND	ND	ND	ND	ND	0.05	ND	101

ND = None Detected

Reported By

QA Check

Greg Bolt
Laboratory Director

EMS330TC8 12/10/97

SCHN00151535

(39)

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ANALYSIS REPORT

CLIENT
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Portland OR 97201

Date Received: 11/26/97
Date Analyzed: 12/9/97
Date Reported: 12/10/97
Job Number: 33006-33
Page: 11

Analysis -TCLP Metals 8 (EPA 7000 Series)
Sample Type - Soil

Project - BMWI

Lab Sample #	33024	33029	33031	33031-Dup	Detection
Client I.D.	BH5 16-20"	BH6 2-12"	BH7 5-10"	BH7 5-10"	Limit
Metal	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)
Arsenic	ND	ND	ND	ND	0.02
Barium	1.1	0.7	0.6	0.6	0.1
Cadmium	ND	ND	ND	ND	0.02
Chromium	ND	ND	ND	ND	0.05
Lead	ND	ND	ND	ND	0.05
Mercury	ND	ND	ND	ND	0.002
Selenium	ND	ND	ND	ND	0.02
Silver	ND	ND	ND	ND	0.05

ND = None Detected

Reported By

QA Check

Greg Bolt
Laboratory Director

EMS330TC02 12/10/97

SCHN00151536

(40)

CHAIN OF CUSTODY RECORD

AMTEST OREGON L.L.C.

Professional Laboratory Services

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Tel 503 626 7424
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Date Received:

Project Manager: Thor Hinckley
Company Name: Environmental Management Solutions
Address: 1800 S.W. First St. #510
City, State, ZIP: Portland OR 97201
Phone: 225-9060
FAX: 273-8612

Lab Project Number: 33913-27

P.O. # or Project #:
Project Name: BMWI
Project Location:
Sampling Date:

Lab Location:

RUSH? YES NO

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE MATRIX	ANALYSIS REQUIRED
33913	BH 9 12-22"	SOIL	8080
33914	BH 9 116"		—
33915	BH 10 120"		HLO
33916	BH 11 8-12"		8080
33917	BH 12 6-12"		8270, 8080, TCLP
33918	BH 13 12-16"		8080
33919	BH 13 67-72"		HLO
33920	BH 13 155"		—
33921	BH 13 WATER VIALS (2)	WATER	8260 D.B. Nd
33922	BH 14 14-18"	SOIL	8080
33923	BH 15 36"		—
33924	BH 15 120-125"		HLO, 8270
33925	BLAST MEDIA COMPOSITE	SOLID	TCLP8

LAB USE ONLY

Additional Analyses:
Requested By:
Date:

Relinquished By	Date/Time	Received By	Date/Time
Schumberger	12/5/97 11:00	[illegible]	12/5/97 11:00
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

CHAIN2.XLS 1/7/97

SCHN00151537

(41)

CHAIN OF CUSTODY RECORD

AMTEST OREGON L.L.C.

Professional Laboratory Services

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Tel 503 626 7424
Fax 503 643 1460

Date Received:

Project Manager: Thor Hinckley
Company Name: Environmental Management Solutions
Address: 1800 S.W. First St. #510
City, State, ZIP: Portland OR 97201
Phone: 225-9060
FAX: 273-8612

Lab Project Number:

P.O. # or Project #:
Project Name: BMWI.
Project Location:
Sampling Date:

Lab Location:

RUSH? YES NO

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE MATRIX	ANALYSIS REQUIRED
33926	WELL WATER VIALS (2)	WATER	8260 Dissolved
33927	WELL WATER BOTTLES (2)	WATER	H2O

LAB USE ONLY

Additional Analyses:
Requested By:
Date:

Relinquished By	Date/Time	Received By	Date/Time
S Christensen	12/5/97 11:00	[illegible]	12/5/97 11:00
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

CHAIN2.XLS 1/7/97

SCHN00151538

(42)

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ANALYSIS REPORT

CLIENT
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3445 N.W. Front St.
Portland OR 97201

Date Received: 12/5/97
Date Analyzed: 12/12/97
Date Reported: 12/15/97
Job Number: 33913-27
Page: 1

Analysis -Dissolved Metals (EPA 7000 Series)
Sample Type - Water

Project - BMWI

Lab Sample #	33921	33926	Detection	Matrix
Client I.D.	BH 13	Well Water	Limit	Spike
Metal	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	% Recovery
Cadmium	ND	ND	0.02	99
Chromium	ND	ND	0.03	113
Lead	ND	ND	0.02	88
Arsenic	0.015	ND	0.005	87

ND = None Detected

Reported By

QA Check

Greg Bolt
Laboratory Director

Ems339m4 12/15/97

SCHN00151539

(43)

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ANALYSIS REPORT

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Date Received: 12/5/97
Date Analyzed: 12/9/97
Date Reported: 12/15/97
Job Number: 33913-27
Page: 2

Project - BMWI
Sample Type - Soil

Lab Number	Client Identification	Analysis - TPH-HCID Results			
		Gasoline	Diesel	Other*	Surrogates Recovery %
33915	BH 10	ND	ND	ND	100/76
33915-Dup	BH 10	ND	ND	ND	99/67
33919	BH 13	ND	ND	ND	98/91
33924	BH 15	ND	ND	ND	105/88
Lab Blank	12/9/97	ND	ND	ND	96/67

ND = None Detected
Detection Limits: Gasoline - 20 mg/kg; Diesel - 50 mg/kg; Other* - 100 mg/Kg

*Higher boiling petroleum products

Reported By [signature]
QA Check [signature]

[signature]
Greg Bolt
Laboratory Director

Ems339h 12/15/97

SCHN00151540

(44)

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ANALYSIS REPORT

CLIENT
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1800 S.W. First St. #510
Portland OR 97201

Date Received: 12/5/97
Date Analyzed: 12/10/97
Date Reported: 12/15/97
Job Number: 33913-27
Page: 3

Project - BMWI
Sample Type - Water

Lab Number	Client Identification	Analysis - TPH-HCID Results			
		Gasoline	Diesel	Other*	Surrogates Recovery %
33927	Well Water	ND	ND	ND	91/101
33927-Dup	Well Water	ND	ND	ND	88/85
Lab Blank	12/10/97	ND	ND	ND	96/67

ND = None Detected
Detection Limits: Gasoline - 0.1 mg/L; Diesel - 0.5 mg/kg; Other* - 1.0 mg/L

*Higher boiling petroleum products

Reported By _____

QA Check _____

Greg Bolt
Laboratory Director

Ems339wh 12/15/97

SCHN00151541

(45)

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ANALYSIS REPORT

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Date Received: 12/5/97
Date Analyzed: 12/16/97
Date Reported: 12/16/97
Job Number: 33913-27
Page: 4

Analysis -TCLP Metals 8 (EPA 7000 Series)
Sample Type - Soil

Project - BMWI

		Quality Control Information		
Lab Sample #	33917	Detection	Digestion	Matrix
Client I.D.	BH 12 6-12"	Limit	Blank	Spike
Metal	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	% Recovery
Arsenic	ND	0.02	ND	115
Barium	0.82	0.05	ND	100
Cadmium	ND	0.02	ND	99
Chromium	ND	0.01	ND	113
Lead	ND	0.02	ND	88
Mercury	ND	0.002	ND	107
Selenium	ND	0.02	ND	83
Silver	ND	0.05	ND	101

ND = None Detected

Reported By

QA Check

EMS338TCB 12/17/97

Greg Bolt
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SCHN00151542

ANALYSIS REPORT

(46)

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Date Received: 12/5/97
Date Analyzed: 12/17/97
Date Reported: 12/18/97

Analysis - Semi-Volatile Organics (EPA Method 8270)
Sample Type - Soil
Project - BMWI

Job Number: 33913-27
Page: 5a

Laboratory Sample Number	33917	33924	33924-Dup	Detection Limit	Extraction Blank	Matrix Spike
Client Identification	BH 12 8-12"	BH 15 120-125"	BH 15 120-125"			
Compound	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	% Recovery
Acenaphthene	ND	ND	ND	0.04	ND	
2,4-Dinitrophenol	ND	ND	ND	1.0	ND	
4-Nitrophenol	ND	ND	ND	1.0	ND	
2,4-Dinitrotoluene	ND	ND	ND	0.1	ND	
Diethylphthalate	ND	ND	ND	0.05	ND	
4-Chlorophenyl-phenyl ether	ND	ND	ND	0.05	ND	75
Fluorene	ND	ND	ND	0.04	ND	
4,6-Dinitro-2-methylphenol	ND	ND	ND	0.5	ND	
n-Nitrosodiphenylamine	ND	ND	ND	0.05	ND	
4-Bromophenyl-phenyl ether	ND	ND	ND	0.05	ND	
Hexachlorobenzene	ND	ND	ND	0.05	ND	
Pentachlorophenol	ND	ND	ND	0.5	ND	97
Phenanthrene	0.12	ND	ND	0.04	ND	
Anthracene	0.06	ND	ND	0.04	ND	
Di-n-butylphthalate	ND	ND	ND	0.05	ND	
Fluoranthene	0.42	ND	ND	0.04	ND	88
Benzidine	ND	ND	ND	1.0	ND	
Pyrene	0.91	ND	ND	0.04	ND	
Butylbenzylphthalate	ND	ND	ND	0.05	ND	
3,3-Dichlorobenzidine	ND	ND	ND	1.0	ND	
Benzo(a)anthracene	0.28	ND	ND	0.04	ND	
Chrysene	0.49	ND	ND	0.04	ND	
bis(2-Ethylhexyl)phthalate	ND	ND	ND	0.05	ND	
Di-n-octylphthalate	ND	ND	ND	0.05	ND	
Benzo(b)fluoranthene	0.56	ND	ND	0.04	ND	
Benzo(k)fluoranthene	0.32	ND	ND	0.04	ND	
Benzo(a)pyrene	0.62	ND	ND	0.04	ND	82
Indeno(1,2,3-cd)pyrene	0.74	ND	ND	0.04	ND	
Dibenzo(a,h)anthracene	0.09	ND	ND	0.04	ND	103
Benzo(g,h,i)perylene	0.74	ND	ND	0.04	ND	

ND = None Detected

QC Information: Surrogate Recovery %					
2,4,6-Tribromophenol	123	50	54	70	96
d14-p Terphenyl	97	92	74	87	99

Reported By

QA Check

Greg Bolt
Laboratory Director

Ema339ee 12/18/97

SCHN00151543

ANALYSIS REPORT

(47)

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Date Received: 12/5/97
Date Analyzed: 12/17/97
Date Reported: 12/18/97

Analysis - Semi-Volatile Organics (EPA Method 8270)
Sample Type - Soil
Project - BMWI

Job Number: 33913-27
Page: 5b

Laboratory Sample Number	33917	33924	33924-Dup	Detection Limit	Extraction Blank	Matrix Spike
Client Identification	BH 12 6-12"	BH 16 120-125"	BH 16 120-125"			
Compound	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	% Recovery
Phenol	ND	ND	ND	0.1	ND	64
bis(2-Chloroethyl)ether	ND	ND	ND	0.1	ND	
2-Chlorophenol	ND	ND	ND	0.1	ND	
1,3-Dichlorobenzene	ND	ND	ND	0.05	ND	61
1,4-Dichlorobenzene	ND	ND	ND	0.05	ND	
1,2-Dichlorobenzene	ND	ND	ND	0.05	ND	
bis(2-Chloroisopropyl)ether	ND	ND	ND	0.05	ND	
n-Nitroso-di-n-propylamine	ND	ND	ND	0.1	ND	
Hexachloroethane	ND	ND	ND	0.05	ND	
Nitrobenzene	ND	ND	ND	0.05	ND	83
Isophorone	ND	ND	ND	0.05	ND	
2-Nitrophenol	ND	ND	ND	0.1	ND	
2,4-Dimethylphenol	ND	ND	ND	0.2	ND	
bis(2-Chloroethoxy)methane	ND	ND	ND	0.05	ND	
2,4-Dichlorophenol	ND	ND	ND	0.1	ND	
1,2,4-Trichlorobenzene	ND	ND	ND	0.05	ND	
Naphthalene	0.04	ND	ND	0.0	ND	
Hexachlorobutadiene	ND	ND	ND	0.05	ND	
4-Chloro-3-methylphenol	ND	ND	ND	0.1	ND	110
Hexachlorocyclopentadiene	ND	ND	ND	0.1	ND	
2,4,6-Trichlorophenol	ND	ND	ND	0.2	ND	
2-Chloronaphthalene	ND	ND	ND	0.04	ND	64
Dimethylphthalate	ND	ND	ND	0.05	ND	
Acenaphthylene	0.09	ND	ND	0.04	ND	
2,6-Dinitrotoluene	ND	ND	ND	0.1	ND	81

ND = None Detected

QC Information: Surrogate Recovery %

2-Fluorophenol	84	40	35	64	45
2-Fluorobiphenyl	105	83	70	87	68

Reported By

QA Check

Greg Bolt
Laboratory Director

EMS33913b 12/18/97

SCHN00151544

ANALYSIS REPORT

(48)

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Date Received: 12/5/97
Date Analyzed: 12/17/97
Date Reported: 12/18/97
Job Number: 33913-27
Page: 6

Analysis - GC/MS Volatiles (EPA Method 8260)
Sample Type - Soil
Project - BMWI

Laboratory Sample Number	33921	33926		Reporting
Client Identification	BH 13	Well Water	Blank	Limit
Compound	ug/L(ppb)	ug/L(ppb)	ug/L(ppb)	ug/L(ppb)
Acetone	ND	ND	ND	25
Benzene	ND	ND	ND	0.5
Bromodichloromethane	ND	ND	ND	0.5
Bromomethane	ND	ND	ND	0.5
Bromoform	ND	ND	ND	0.5
Carbon Disulfide	ND	ND	ND	25
Carbon Tetrachloride	ND	ND	ND	0.5
Chlorobenzene	ND	ND	ND	0.5
Chlorodibromomethane	ND	ND	ND	0.5
Chloroethane	ND	ND	ND	5.0
Chloroform	ND	ND	ND	0.5
Chloromethane	ND	ND	ND	0.5
cis-1,3-Dichloropropene	ND	ND	ND	0.5
Ethyl Benzene	ND	ND	ND	0.5
Methylene Chloride	ND	ND	ND	5.0
Styrene	ND	ND	ND	0.5
Tetrachloroethylene	1.1	1.4	ND	0.5
Toluene	ND	ND	ND	0.5
Total Xylenes	ND	ND	ND	0.5
trans-1,3-Dichloropropene	ND	ND	ND	0.5
Trichlorofluoromethane	ND	ND	ND	5.0
Vinyl Acetate	ND	ND	ND	25
Vinyl Chloride	ND	ND	ND	5.0
1,1,1-Trichloroethane	ND	ND	ND	0.5
1,1,2,2-Tetrachloroethane	ND	ND	ND	0.5
1,1,2-Trichloroethane	ND	ND	ND	0.5
1,1,2-Trichloroethene	ND	3.9	ND	0.5
1,1-Dichloroethane	ND	ND	ND	0.5
1,1-Dichloroethene	ND	ND	ND	5.0
1,2-Dichloroethane	ND	ND	ND	0.5
1,2-Dichloroethylene	ND	ND	ND	0.5
1,2-Dichloropropane	ND	ND	ND	0.5
1,2-Dichlorobenzene	ND	ND	ND	0.5
1,3-Dichlorobenzene	ND	ND	ND	0.5
1,4-Dichlorobenzene	ND	ND	ND	0.5
2-Chloroethylvinyl ether	ND	ND	ND	0.5
2-Butanone (MEK)	ND	ND	ND	25
2-Hexanone	ND	ND	ND	25
4-Methyl-2-Pentanone (MIBK)	ND	ND	ND	25

Surrogate Recovery %:				Acceptance Limits:
d4-1,2-Dichloroethane	121	105	99	70-121 %
d8-Toluene	114	98	101	80-117 %
4-Bromofluorobenzene	118	107	103	74-121 %

ND = None Detected

Reported By

Greg Bolt
Laboratory Director

Eme339v 12/18/97

SCHN00151545

(49)

AMTEST OREGON L.L.C.
Professional Laboratory Services
9205 S.W. Nimbus Ave.
Beaverton, OR 97008
Tel 503 626 7424
Fax 503 643 1460

ANALYSIS REPORT

CLIENT
Thor Hinckley
Environmental Management Solutions
3445 N.W. Front St.
Portland OR 97201

Date Received: 12/5/97
Date Analyzed: 12/17/97
Date Reported: 12/18/97
Job Number: 33913-27
Page: 7

Analysis - PCBs (EPA Method 8080)

Project - BMWI
Sample Type - Soil

Laboratory Sample #	33913	33916	33917	33918	33922		Detection
Client Identification	BH 9 12-22"	BH 11 8-12"	BH 12 6-12"	BH 13 12-16"	BH 14 14-18"	Blank	Limit
PCB's	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Arochlor 1016	ND	ND	ND	ND	ND	ND	0.5
Arochlor 1221	ND	ND	ND	ND	ND	ND	0.5
Arochlor 1232	ND	ND	ND	ND	ND	ND	0.5
Arochlor 1242	ND	ND	ND	ND	ND	ND	0.5
Arochlor 1248	ND	ND	ND	ND	ND	ND	0.5
Arochlor 1254	ND	ND	ND	ND	ND	ND	0.5
Arochlor 1260	ND	ND	ND	ND	ND	ND	0.5
Surrogate % Recovery	99	79	71	63	53	113	

ND = None Detected

QC Information: Spike, 94 % Recovery

Reported By

GB
QA Check

Greg Bolt
Greg Bolt
Laboratory Director

Ema339pc 12/18/97

SCHN00151546

AMTEST OREGON L.L.C.
Professional Laboratory Services
9205 S.W. Nimbus Ave.
Beaverton, OR 97008
Tel 503 626 7424
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(50)

ANALYSIS REPORT

CLIENT
Thor Hinckley
Environmental Management Solutions
3445 N.W. Front St.
Portland OR 97201

Date Received: 12/5/97
Date Analyzed: 12/22/97
Date Reported: 12/22/97
Job Number: 33913-27
Page: 8

Analysis -TCLP Metals 8 (EPA 7000 Series)
Sample Type - Soil

Project - BMWI

Lab Sample #	33925	Quality Control Information		
Client I.D.	Blast Media	Detection Limit	Digestion Blank	Matrix Spike
Metal	mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	% Recovery
Arsenic	0.05	0.02	ND	115
Barium	2.00	0.05	ND	100
Cadmium	ND	0.02	ND	99
Chromium	0.03	0.01	ND	113
Lead	0.09	0.02	ND	88
Mercury	ND	0.002	ND	107
Selenium	ND	0.02	ND	83
Silver	ND	0.05	ND	101

ND = None Detected

CV
Reported By

GB
QA Check

Greg Bolt
Greg Bolt
Laboratory Director

EMS330TC-8 12/23/97

SCHN00151547

PORTLAND
CONTAINER
REPAIR CORP.
9449 N. Burgard Way Portland, OR 97203
Phone 503-286-5961 Fax 503-286-9342

March 16, 1999

Linda Wakefield
Schnitzer Investment Corp.
3200 NW Yeon Avenue
Portland, OR. 97210

Dear Linda:

We have received a Site Assessment Review Notice from the D.E.Q. covering the property on N. Burgard Way.

I have enclosed a copy of the notice and our response. We included a copy of the assessment done by the Quality Group in 1994 for parcels 4, 5 & 6 in our response. This is a report that you provided us with prior to our lease and have not included a copy with this correspondence.

We don't believe that our use of the property is causing pollution or contamination to the river. In any event, we intend to cooperate fully and keep you informed as things progress.

Sincerely,

Bob

Robert W. McClane
Portland Container Repair Corp.

RWM/lmm

Enclosures

Oregon
John A. Kitzhaber, M.D., Governor

Department of Environmental Quality
Northwest Region
2020 SW Fourth Avenue
Suite 400
Portland, OR 97201-4987
(503) 229-5263 Voice
TTY (503) 229-5471

March 2, 1999

Mr. Robert W. McClane
Portland Container Repair Corporation
PO Box 98951
Seattle, WA 98198

Re: Site Assessment Review Notice
Portland Container Repair Corporation
9449 N Burgard Way
Portland, Oregon 97203
Multnomah County

Dear Mr. McClane:

The Department of Environmental Quality (DEQ), Site Assessment Program is performing a preliminary review of file information for the Portland Container Repair Corporation facility located at 9449 N Burgard Way in Portland, OR. The Site Assessment Program is concerned with properties with known or potential environmental contamination. This review is being performed under Oregon's Environmental Cleanup Law Oregon Revised Statutes (ORS) 465.245. Our records indicate that Portland Container Repair Corporation is an operator at the site. Please contact me if that information is not correct.

Based upon initial sampling results from a river sediment quality study conducted within Portland Harbor during the fall of 1997 by EPA and DEQ, and a review of available records, your site has been identified as a potential source of contamination to the river. EPA and DEQ collected near-shore sediment samples from 151 sampling locations along a six mile stretch of the Willamette River between the mouth of Multnomah Channel (at River Mile 3.6) and Swan Island (at River Mile 9.2). Samples were analyzed for metals, petroleum constituents,

polychlorinated biphenyls (PCBs), pesticides, dioxins, and other volatile and semi-volatile organic constituents. Elevated concentrations of these contaminants were found at several locations within the Harbor. Some of the sediments contain concentrations of organic and inorganic contaminants which could potentially be harmful to fish, wildlife, or human health.

Properties that are located near areas where sediment contaminants were detected at elevated concentrations, or at which historical activities suggest a potential source of contamination, are being further examined through DEQ's Site Assessment Program. Sites along the Willamette River may contribute to sediment contamination through direct discharges to the river or nearby streams or stormsewers, through nonpoint surface water runoff, or through discharges of contaminated groundwater.

We want to give you an opportunity update our existing information, and to provide any information which you think we may not be aware of, especially any recent investigations or clean-up reports we may not already have. DEQ will use the information you provide, together with our other information, to determine if your facility will require further assessment. Your assistance in gathering this information will help to ensure an accurate and thorough review of the site.

Enclosed is an outline of the information that we would find most helpful. We ask that you provide the requested information for the site listed above to the best of your knowledge.

To ensure a timely review of your site, please send the requested information within two weeks of the date postmarked on the envelope. If we do not hear from you, we will proceed with our review of the information we already have. Please send the information to:

Steve Fortuna, Remedial Action Specialist
Site Assessment Program
Oregon Department of Environmental Quality, Northwest Region
2020 NW Fourth Avenue, Suite 400
Portland, OR 97201-4987

Because ORS 465.330 requires recovery of state expenses associated with remedial actions, DEQ will track its costs in reviewing your facility. DEQ will recover those costs if we determine that further action is needed to protect public health or the environment from on-site releases of hazardous substances. Costs

may be recovered from persons defined as liable under Oregon Revised Statutes (ORS) 465.255. At the completion of the review we will inform you of DEQ's decision regarding further action and what, if any, costs will be recovered.

If you have any questions regarding this letter or the Site Assessment process, please feel free to contact Janelle Waggy at (503) 229-5741.

Sincerely,

Steve Fortuna, Remedial Action Specialist
Site Assessment Program
DEQ Northwest Region

Enclosure: Site Assessment Information Request Outline

cc: Gil Wistar, Coordinator, Site Assessment Program
Jennifer Sutter, Project Manager, Portland Harbor Sediment Project

PContainer.ltr (3/99)

SITE ASSESSMENT INFORMATION REQUEST

Please address each item as completely as possible. When you cannot address a particular item because of a lack of information, please state so.

1. PROVIDE THE FOLLOWING BACKGROUND INFORMATION:

   a. Facility name and address.

   b. Facility owners and operators names, titles, addresses, and phone numbers.

   c. Property owners (if different from facility owner/operator) name, address, and phone number.

   d. Current use of site, and year those operations began at the site.

   e. Past use of site: include all you know about previous owners and users of site, and associated dates.

   f. Size of site (in acres or square feet) and tax lot numbers.

   g. Site security (is the site *completely or partially fenced, patrolled,* etc.?).

   h. Land uses immediately surrounding the site boundaries. An example of the type of information being sought: *"The site is mostly surrounded by industrial [or commercial, or agricultural] land, but a small residential area is located ¼ mile to the northwest....."*, etc.

2. PROVIDE A SITE MAP WITH THE FOLLOWING ITEMS IDENTIFIED:

   a. Building names and their functions (past and present).

   b. All chemical and waste storage and disposal areas (e.g., does the site have *buildings, ponds, ditches, landfills, waste piles, tanks, dry wells, drainfields,* etc.); include inactive or abandoned areas.

   c. Outdoor process areas.

   d. Storage tanks, both underground and above ground (*number, size, contents, active, inactive, decommissioned in place,* etc.).

   e. Waste treatment systems (including active, or inactive, drywells, drainfields, septic tanks).

   f. Any on-site wells (*water supply, monitoring, dry wells, abandoned wells*).

3. PROVIDE THE FOLLOWING CHEMICAL/WASTE HANDLING INFORMATION:

   a. All chemical products used or stored at the site, past and present (include any *fuels, solvents, oils, pesticides,* etc.).

(OVER)

b. All waste products generated or stored at the site (include any *waste solvents or oils, filter cake, spent plating solutions, metal grindings, spent sandblast shot,* etc.).

c. Approximate volumes of chemicals used and wastes generated per year, and maximum volume kept on-site.

d. Any on-site chemical or waste-treatment systems (include any *flocculation/filtration, incineration, chemical or physical treatment, volume reduction,* etc.).

e. Information on all past and present chemical and waste storage and disposal areas; include information on size, type, current or former contents, and condition of each. Examples of this type of information might include:

"There are two 3,000-gallon steel underground tanks on-site; each presently contains about 500 gallons of gasoline. These were installed in 1988, and are thought to be in good condition. They have not been tested."

"Between 1942 and 1971, waste sandblast grit was buried in a series of trenches located 50 to 150 yards north of the main shop. The trenches were unlined and measure approximately 2 feet wide, 4 feet deep, and 30 feet long".

f. Type, quantity, and destination of all wastes removed from site. An example of the type of information being requested: *"Since 1984, 2 tons of metal wastes have been landfilled at the county dump site each month; 55 gallons of used benzene has been recycled each month through Bob's Solvent Recovery Company of Butte Montana...",* etc.

g. Any spills or other releases of chemical substances (including petroleum products) that have occurred at the site during your operation or ownership.

h. Any information you have about chemical substances used, stored, or released at the site by prior owners or operators.

4. PROVIDE THE FOLLOWING PERMIT INFORMATION:

a. Identify all existing or expired regulatory permits. For each, provide information on the type of permit (such as *NPDES, RCRA Interim Status,* etc.), regulating agency (such as *federal, state, local sewerage agency*), and issue and expiration dates.

5. PROVIDE THE FOLLOWING SAMPLING/CLEANUP/INVESTIGATIVE INFORMATION:

a. Describe all environmental investigations/sampling/monitoring performed at site. Provide investigative reports/sampling results, if any.

b. Describe any soil excavations or removals, spill cleanups, groundwater treatment, etc. that may have been performed at site.

(END)

infone4.lst (12/96)

PORTLAND CONTAINER

West Yard
9449 N. Burgard Way Portland, OR 97203
Phone 503-286-5961 Fax 503-286-9342

East Yard
12001 N Portland Rd Portland, OR 97203
Phone 503-286-2276 Fax 503-286-8370

Storm Water Pollution Prevention Plan (SWPPP) prepared for the Portland Container Repair facilities in accordance with local requirements. This SWPPP identifies potential sources of storm water pollution and prescribes a series of best management practices (BMPs) or control measures to be implemented to minimize the discharge of pollutants in storm water runoff.

The objectives of the SWPPP are:

To eliminate the discharges of unpermitted process wastewater, domestic wastewater and non-contact cooling water to storm drainage systems

Implement Best Management Practices (BMPs) to identify, reduce and prevent the pollution of storm water

To prevent violations of surface water quality, ground water quality and sediment management standards

Key SWPPP Requirements

- Pollution Prevention Team must be designated
- Record of significant spills/leaks must be maintained
- Control measures must be implemented
- Visual facility inspections must be conducted and inspection logs maintained
- Employees must be informed of the components of the SWPPP

Inspections and Monitoring

Two inspections per year will be made and documented. One during the wet season (Oct 1 - Apr 30) and one during the dry season (May 1 - Sep 30). This plan is available to all government organizations and will be retained on site, or within reasonable access.

Good Housekeeping

Good housekeeping practices are intended to maintain potential pollution source areas in a clean and orderly condition. Appropriate good housekeeping measures are partially prescribed in the following BMP's.

Operational BMP's :

- Keep lid on garbage dumpster closed
- Remove and dispose of 5 gallon buckets in storage areas
- Educate employees on spill response procedures
- Keep all 55 gal drums in covered storage area
- Maintain 55 gal drums on spill containment pad
- Routinely clean out oil separator
- Routinely clean out drainage grates and catch basins
-

Source Control BMP's:

- Keep shop floors free of greases and oils via dry sweep removal
- Keep in place absorbent pad on top of 55 gal barrels
- Install back pressure cutoff nozzles on fuel tanks
- For work areas, provide dry clean up materials and covered disposal pail
- For fueling areas, provide dry clean up kits and oil/water absorbent pads
- Eliminate unnecessary equipment washing
- Educate employees on avoiding contaminating areas
- Use wash pads exclusively for cleaning equipment
- Place absorbent pads on ground prior to fueling gensets to avoid spillage
-

Treatment BMP's:

- Clean up grease and oil spills with absorbents immediately and dispose
- Install absorbent pad in storm drain to catch oils from truck traffic
-

Employee Training

Effective management of storm water pollution will require all facility staff to be alert to those conditions that could cause pollution. The storm water Pollution Prevention Team is responsible for ensuring that all existing operations staff at the facility understand the components of the SWPP, how it is implemented and their role in contributing to the effectiveness of the storm water control measures. The employee training will be integrated with the facility's existing training and safety program.

The following subjects will be addressed in training:

- Objectives and requirements of the SWPPP
- Spill prevention, response and reporting procedures
- Good housekeeping practices
- Proper fueling and storage procedures

Inspections

The Pollution Prevention Team will conduct routine visual inspections of the facility for the evidence of, or the potential for, pollutants entering the drainage system. Routine visual inspections will ensure that all elements of the SWPPP are in place and working properly. The visual inspection will consist of a routine site walk-over to confirm that the selected BMP's are functioning properly and to correct obvious conditions that may contribute to runoff contamination. At a minimum there will be two inspections per year.

Site Compliance Evaluation

In addition to the routine visual inspections, a comprehensive site compliance evaluation will be conducted annually. The objective of the evaluation is to assess the overall effectiveness of this SWPPP and to modify/improve the SWPPP as appropriate.

The annual compliance evaluation of the facility will include the following elements:

- Verify that source and structural controls have been implemented, are being maintained and are effective in controlling storm water pollution

- Determine if improvements or additional control measures are needed

- Inspect the condition of spill response equipment

- Evaluate results of routine inspections

Based on the findings of the annual site evaluation, the SWPPP will be modified to reflect changes in the conditions at the facility which could significantly affect storm water runoff. In the event of changes, appropriate implementations will be made in a timely manner.

SCHNITZER STEEL INDUSTRIES, INC.

3200 NW Yeon Avenue
P.O. Box 10047
Portland, Oregon 97296-0047
Phone: (503) 224-9900
Fax: (503) 323-2804
Telex: 289875

July 13, 2007

Mr. Dana Bayuk
Oregon Dept of Environmental Quality
Northwest Region
2020 SW Fourth Avenue, Suite 400
Portland, OR 97212

Dear Dana,

I am writing to provide Schnitzer Steel Industries' comments on the *Area 3 Remedial Action* memorandum (RA Memo) from David King of Kleinfelder to you, dated March 19, 2007. Although Schnitzer Steel has not been directly involved in the Gunderson remedial investigation, we have been following its progress with interest, due in large part to Gunderson's overt accusations regarding liabilities related to portions of the site. We are also concerned about any precedents that may be set by the activities described therein. Schnitzer Steel appreciates this opportunity to provide comments.

The RA Memo presents recommended remedial actions for the Gunderson Area 3 site in Portland, Oregon. The recommended remedial actions are based on the results of sampling and analysis performed at the site and presented in the following Kleinfelder reports:

- *Remedial Investigation, Gunderson Area 3, Former Schnitzer Steel Yard*, Portland, Oregon, March 2005. (RI Report)
- *Focused Remedial Investigation and Preliminary Upland Source Control Evaluation, Gunderson Area 3, Former Schnitzer Steel Yard*, June 2006. (PSCE Report)

The recommended remedial actions are presented in the RA memo according to "Operable Units", or OUs. However, there is no figure in either the RI Report or PSCE Report reports showing all of the explorations in each OU. This makes it difficult to identify and assess the analytical data for each OU; the data used to develop the remedial action recommendations. It is necessary to combine information in Figure 3 and Figure 6 in the June 2006 report and Figure 6 in the April 2005 report along with the data in Appendix C of the June 2006 report to assemble analytical data specific to each operable unit.

Soil Operable Unit 1

OU1 is shown as the riverbank along the entire Gunderson Area 3 site. The RA Memo recommends removal of "deleterious soil containing COPCs" to a depth of 3 feet from the "riverbank and lower shoreline". The removed material would be replaced with "clean, engineered fill" and the slope armored to prevent erosion. The memorandum also recommends that a geotextile be placed between the exposed soil and the overlying armor to "limit the possible seepage of water from upland sources". The RA Memo also concludes that

"It is not cost effective to conduct additional investigation work to determine what concentration these COPCs [Chemicals of Potential Concern] would rise to the level of COCs [Chemical of Concern]".

The explorations in OU1 are MW-74, HA-34, HA-37, HA-38, HA-39, HA-40, HA-41, HA-42, and HA-43. The HA (i.e. hand auger) samples were reportedly collected at the water line. MW-74 is located several feet inland from the top of the bank. No soil samples were apparently collected from along the river bank between the water line and the top of the river bank. Soil samples were apparently collected at depths of 0.5 feet and 2 feet in the HA explorations and at depths of 0.5, 2, 10, and 25 feet in MW-74.

A summary of the chemical analysis performed on the soil samples from OU1 is presented in Table 5 in Section 7.2.1 of the PSCE Report. Sample-specific results of the chemical analysis are presented in Appendix C. Comparing Table 5 and Appendix C, several of the reported maximum concentrations in Table 5 do not agree with the concentrations provided in Appendix C. Regardless, concentrations of PCBs, PAHs, and metals greater than *screening* levels are present in all of the OU1 explorations. Relatively higher concentrations are noted in the explorations at the southern end of the Operable Unit (HA-42 and HA-43).

The decision to perform an immediate remedial action along the entire length of the Gunderson Area 3 site is not supported by the data or analysis to date. First of all, while some of the concentrations, especially in the southern portion of OU1 exceed screening levels, the criteria are exactly that, *screening* levels. Any decision to remove all of the river bank material should be based on supportable findings showing that the concentrations representative of the soil exposed along the river bank will directly result in unacceptable risk in the Portland Harbor. Here, however, the concentrations of COPCs in the river that cause unacceptable risk and will require remedial action have not yet been determined. Therefore, it is not possible yet to determine which, if any, river bank soil concentrations rise to level requiring an immediate removal action to prevent unacceptable risk in the Portland Harbor.

Secondly, with the exception of MW-74 in the uplands above the downstream end of OU1, soil samples have apparently been collected in OU1 only at the water line at the bottom of the river bank. The concentrations in these soils may be the result of sediment deposition from the Willamette River and may not be representative of the river bank material above the water line. No samples have been collected from the river bank above the water line to assess the representative concentrations in these soils. Clearly, further investigative work including completion of the Portland Harbor RI/FS and representative sampling of the river bank material should be performed before a decision is made as to whether all of the river bank soil should be removed.

Moreover, insufficient analysis has been conducted to date to assess whether the removal of river bank soil is warranted or may unduly exacerbate conditions given the presence of armor along most of the river bank. Section 5.6 of the June 2006 report notes that only the portion of the riverbank at the far north end of the Area 3 site is susceptible to erosion. Given this presence of armor and the associated lack of erosion potential in the remainder of OU1, disturbing the armored area during the removal and causing the release of potentially

contaminated soil may outweigh whatever decreased potential in long-term release might be realized by the removal action.

Finally, the decision to remove all river bank soil is not supported by any Engineering Evaluation/Cost Analysis (EECA)-type assessment. If, following the additional analyses described above, it is determined that river bank concentrations nonetheless warrant an immediate remedial action, an EECA–type assessment should be performed to determine the most appropriate remedial action. Even if immediate remedial action is found to be appropriate for a portion of OU1, it would not be possible to determine that removal of the bank material to a prescribed depth is the appropriate remedy until an EECA-type assessment is complete.

Soil Operable Unit 2

OU2 is noted as the uplands near the top of the river bank at the upstream end of the site. The area is described as being in the vicinity of the former automobile crusher. The RA Memo recommends that soil with contaminant concentrations greater than "10 times the Human Health Screening Level" be removed from the site. Excavations up to 9 feet deep are anticipated to achieve this goal. Clean engineered fill would be placed in the excavations.

The basis of the 10 times the Human Health Screening Level for a remedial action goal is not presented. It appears from the unnumbered tables in Appendix C of the PSCE Report that the human health risk criteria are based on an occupational worker exposure scenario (i.e. U. S. Environmental Protection Agency Region 9 Preliminary Remediation Goals (PRGs) for industrial soil). It is not clear why human health risk-based criteria are driving an immediate remedial action at the site. There is no demonstration that there is a current, existing pathway at the site for exposures to humans. The site is believed to be generally paved or covered with imported granular fill[1]. The presence of contaminants above screening levels could, in certain circumstances, suggest that further work is required to assess the potential for unacceptable human health risks. However, this finding, in itself, does not justify the performance of an immediate remedial action particularly where, as here, there is no basis for determining that there is a complete pathway with exposures occurring with the frequency, duration, and intensity assumed in the derivation of the screening level concentrations. On the contrary, the presence of the site cover likely prevents current human exposures to the extent assumed in the human health occupational worker exposure scenario. Therefore, these considerations do not justify the decision to perform an immediate remedial action based on potential exposure to site workers.

In addition to using inappropriate human health criteria, the decision to apply a factor of 10 to represent a "hot spot" likewise is unsupported. PCBs, benzo(a)pyrene (BaP), and lead are the contaminants with the greatest percentage of human health screening criteria exceedence noted on Table 6 of the PSCE Report. Thus, these contaminants appear to be the primary drivers for the recommended immediate remedial action. Based on the unnumbered tables in

[1] If the site is not covered with pavement or gravel, placing a layer of gravel across the affected area may be the most appropriate immediate remedial action.

Appendix C of the PSCE Report, the "Highly Concentrated Human Health Hot Spot" concentrations noted for these contaminants are presented in Table 1.

TABLE 1
Gunderson Recommended OU1 Hot Spot Concentrations
Gunderson Site

Contaminant	Gunderson Recommended Hot Spot Concentration (mg/kg)
PCBs	7.4
Benzo(a)pyrene	21
Lead	80,000

These hot spot concentrations are not consistent with hot spot concentrations derived under the DEQ cleanup regulations and guidance. In particular:

- The DEQ generic remedy for PCB contaminated soil notes the protective level for PCBs as 7.5 mg/kg and the hot spot concentration of 100 mg/kg. None of the soil samples in OU2 have PCB concentrations greater than 100 mg/kg.
- BaP is a carcinogen and, thus, according to OAR 340-122-115(31)(b)(A)(i), the soil hot spot concentration should be 100 times the protective level. Based on the protective level of 0.27 mg/kg in Appendix A of the DEQ Risk-Based Decision Making document, the human health-based BaP hot spot concentration would be 27 mg/kg. None of the soil samples in OU2 have BaP concentrations greater than 27 mg/kg.
- Lead is a non-carcinogen and thus, according to OAR 340-122-115(31)(b)(A)(ii), the soil hot spot concentration should be 10 times the protective level. Based on the protective level of 750 mg/kg in Appendix A of the DEQ Risk-Based Decision Making document, the human health-based BaP hot spot concentration would be 7500 mg/kg. Only one soil sample in OU2, from a depth of 2.5 feet, exceeded this lead hot spot concentration.

Finally, Table 6 of the PSCE Report notes that very few of the soil samples in OU2 exceed the Portland Harbor Joint Source Control Strategy (JSCS) Screening Level Values (SLVs). Given that site source control is the primary reason the site investigation is being performed and so few samples exceed the conservative JSCS SLV values, the immediate remedial action considered for OU2 is not supported by the data.

In addition, the proposal for an immediate remedial action in OU2 is not supported by any EECA-type assessment. Even if the questions posed above are answered and concentrations in portions of OU2 are nonetheless found to warrant an immediate remedial action, an EECA-type assessment should be performed to determine the most appropriate remedial action. This would include determining what the specific remedial action goal is and what the extent of soil exceeding this goal is. Even if immediate remedial action is appropriate for a portion of OU2,

it should not be assumed that the remedial action consists of removal and offsite disposal of soil without analysis of other potential options.

Soil Operable Unit 3

OU3 is noted as the uplands near the top of the river bank adjacent downstream from OU2 site. The RA Memo recommends that soil with mercury concentrations greater than 100 mg/kg be removed from the OU3 site. Clean engineered fill would be placed in the excavation.

The basis for the 100 mg/kg criteria is not presented. Even assuming that there is an exposure pathway to site workers from the soil where the mercury concentration was measured (which has not yet been shown), the EPA human health industrial PRG for mercury is 310 mg/kg. Given that mercury is a non-carcinogen, the DEQ human health hot spot concentration would be 3100 mg/kg. None of the soil samples have a mercury concentration greater than 3100 mg/kg. Moreover, no pathway has been identified to date between the upland soil where the mercury concentration was measured (about 120 feet from the top of the river bank) and the river. In addition, the JSCS SLV for mercury is 1060 mg/kg. Only one soil sample in OU3 exceeded this concentration and only by a factor of 1.7. Given the lack of pathways from the OU3 upland soil and the lack of any significant exceedence of potentially applicable criteria, the decision for an immediate remedial action is not supported by data or analysis to date. Finally, the decision is not supported by any EECA-type assessment. Even if an immediate remedial action were necessary, the specific remedy should be selected only after an EECA-type assessment that also examines other potential remedies.

Soil Operable Units 4 and 5

The RA Memo recommends immediate remedial actions for OU4 and OU5 consisting of restricting further human or ecological contact under "normal operating circumstances." Once again, however, it appears that there is no direct pathway between the upland soil in OU4 and OU5 and the river. Moreover, none of the soil contaminant concentrations exceed the conservative JSCS SLVs. Therefore, the decision to perform an immediate remedial action in OU4 or OU5 is not supported by the data or analysis to date. Moreover, the presence of a soil/gravel/pavement cover over much of the OU4 and OU5 area likely prevents current human exposures to the extent assumed in the human health occupational worker exposure scenario and data to date indicates that any risk posed through this exposure pathway does not warrant an immediate remedial action.

Notwithstanding the above, the RA Memo concludes that immediate remedial actions for OU4 and OU5 may include "soil stabilization, removal, encapsulation, or a combination of these or similar technologies." There is no indication, however, that an EECA-type assessment has been performed. In fact, even if a response can be shown to be justified, other options such as installation and maintenance of a simple soil/gravel cap over the areas of contaminated soil (or maintaining any existing cover) along with simple worker protection and notification program would probably be equally effective at preventing any uncontrolled exposure to site workers from the low level contamination in the soil in OU4 and OU5.

Storm Water

The RA Memo recommends that Gunderson "continue their effort to upgrade their storm water system entirely." Give the overall focus of the Portland Harbor source control on storm water discharge, this emphasis on storm water is appropriate. Risks posed to the Willamette River through the storm water discharge pathway are anticipated to be much greater than any potential risks to the river from upland soil or armored bank soil.

Gunderson's focus on storm water improvements is also appropriate given the apparent continued storm water contaminant releases from the current Gunderson operations. The RA Memo notes that current practices do not appear to be effective in preventing releases of PCBs, metals, and PAHs through the storm water. Gunderson should consider more aggressive storm water source control activities such as sand filters and other storm water treatment systems to prevent such releases.

We appreciate DEQ's efforts in regard to the implementation of the Joint Source Control Strategy harbor-wide, and we respectfully request that these comments be considered when evaluating the Kleinfelder remedial action proposal.

Sincerely,

SCHNITZER STEEL INDUSTRIES, INC.

MATHEW J. CUSMA
Environmental Administrator

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September 15, 2006

Mr. Dana Bayuk
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Gunderson Property
4250 NW Front Avenue

Over the past several years, Gunderson Inc. ("Gunderson") has submitted to the Oregon Department of Environmental Quality (DEQ) several documents describing the environmental conditions on the Area 3 portion of the Gunderson property at 4250 NW Front Avenue in Portland, Oregon (Site). These documents (herein referred to as "the documents") have included the following:

- *Environmental Site Assessment,* November 28, 1990. (ESA Report)
- Preliminary Site Assessment and Remedial Investigation Proposal, September 26, 2000. (PA Report)
- Expanded Preliminary Site Assessment, July 10, 2002. (XPA Report)
- Status of Area 1, Area 2, and Area 3 Site Investigations and Source Control Work, and DEQ Comments on Submitted Documents, Letter from Dana Bayuk/DEQ to Max Miller/Tonkon Torp, September 23, 2005. (Source Control Letter)
- Focused Remedial Investigation and Preliminary Source Control Evaluation, Gunderson Area 3, Former Schnitzer Steel Yard, June 2006. (PSCE Report)

On behalf of Schnitzer Steel Industries, Inc. and Schnitzer Investment Corp. (collectively, "Schnitzer"), Bridgewater Group, Inc. ("Bridgewater") has reviewed the documents and have noted numerous factual errors, misrepresentations and omissions pertaining to historic operations on the Site and Gunderson's operations. In this way, the documents unduly focus on historic operations as potential sources of contaminants, notwithstanding the fact that Gunderson has operated a heavy manufacturing facility on the Site for over 20 years. The documents also fail to recognize and/or sufficiently weigh other potential sources of contamination. As a result, the documents inaccurately present information regarding contaminant sources on the Site.

Site-Specific Contaminants of Potential Concern

Heavy petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals are identified in the PSCE Report as exceeding the DEQ Joint Source control Strategy (JSCS) screening levels. Other than brief statements saying that Gunderson's use of the site has been limited to "material storage", the discussion of potential sources in the documents is focused on historical (pre-Gunderson) operations. This presentation ignores the other potential sources of the site contamination. These sources of petroleum hydrocarbons, PAHs, PCBs, and metals include the following:

Petroleum Hydrocarbons and PAHs

- A photograph in the ESA Report notes a pool of "oily liquid" in the northeast corner of the site near the top of the river bank. The pool was obviously from current operations.
- The ESA report notes "several visible discolored areas" and "several open drums with unknown contents" in Area 3. A photograph of leaking drums is provided in the ESA report.
- The ESA report notes that petroleum products have been used in the manufacture and refurbishing of railcars and in shipbuilding on the site.
- The XPA, PA, and ESA reports note Gunderson has maintained an uncontained drum storage area with drums containing process wastes, paints, solvents, and petroleum products. The ESA report notes that spills have occurred in this area.
- The XPA, PA, and ESA reports note a petroleum spill by Gunderson in 1991 in area 3D that resulted in concentrations greater than 40,000 m/kg of TPH in soils. There is apparently no documentation that this soil was removed.
- The PA and PSCE reports note that Gunderson removed two leaking diesel underground storage tanks (USTs) (3,000 and 5,000 gallons) from area 3C in 1991. About 500 CY of petroleum contaminated soil was removed from the UST excavation.
- As noted in the ESA, PA, and XPA reports, Army Corps of Engineers fill was placed on the site prior to original development of Area 3. Historical (i.e., 1940s-1960s), dredge material placed along the Willamette River banks has been found to contain petroleum hydrocarbons. For example, petroleum hydrocarbons have been measured at concentrations over 400 mg/kg in soil samples from throughout the upper 50 feet at the head of the Swan Island Lagoon where historical dredge spoils were placed.
- Storm water catch basin sediment samples collected in May and June 2003 noted PAHs in catch basins on all portions of the Gunderson site, including far distant from the historical operations in Area 3. PAHs were detected in all of the catch basins sampled in Areas 1 and 2, areas removed from historical operations in Area 3. The average PAH concentration in the Areas 1 and 2 catch basins was over two times greater than the average PAH concentration in the Area 3 catch basin samples. The concentrations of

PAHs in these catch basins reflect Gunderson's current operations and confirm them as a source of PAHs.

PCBs

- Gunderson has acknowledged in the XPA report the presence of two sets of PCB transformers (Vaults 14 and 15) serving Gunderson's operations (as of 2002) on the eastern portion of the site. Vault 13 was noted as non-PCB, but was noted as previously containing PCBs. Based on typical operations and practices, PCB oil has likely been spilled in the areas around the three transformer areas.
- The XPA report notes that PCBs were detected at 17 mg/kg in a sump sample associated with Area 2, which is an area not used for historical Area 3 operations. DEQ noted in their Source Control Letter that source control work is necessary in Area 2 due to high concentrations of PCBs. This presence of high concentrations of PCBs in an area associated with Gunderson's operations belies Gunderson's suggestions that PCBs on the site are associated only with historical practices.
- The ESA report notes that petroleum products containing PCBs may have been used in the manufacture and refurbishing of railcars and in shipbuilding on the site.
- Storm water catch basin sediment samples collected in May and June 2003 noted PCBs in catch basins on all portions of the Gunderson site, including far distant from the area of historical Area 3 operations. PCBs were detected in 14 of 16 catch basins sampled in Areas 1 and 2, areas removed from historical Area 3 operations. Clearly, PCBs present in these catch basins reflect Gunderson's current operations and confirm them as a source of PCBs. The relative concentrations of PCBs in the catch basin sediment samples from Areas 1 and 2 and Area 3 are similar excluding the relatively higher concentration in the sample from near Gunderson's PCB transformer.
- As noted in the ESA, PA, and XPA reports, Army Corps of Engineers fill was placed on the site prior to original development of Area 3. Historical (i.e., 1940s-1960s), dredge material placed along the Willamette River banks has been found to contain PCBs. For example, PCBs have been detected in soil samples from throughout the upper 60 feet at the head of the Swan Island Lagoon where historical dredge spoils were placed.

Metals

- Section 2.1 of the PA Report describes a "paint filter burnoff incinerator" that Gunderson operated in Subarea 3D. Although the report notes that Gunderson personnel state that "...this incinerator discharges no volatile emissions" (which in itself seems implausible), there is no mention of releases of lead that would have occurred from burning lead-based paints.
- The PA Report notes that "slag and sludge wastes" have been placed in the eastern portion of the site. The ESA Report noted "several disposal areas for slag from metal fabrication" in the southeastern portion of the site. Possible sources of the slag and sludge include Gunderson's torch cutting, grinding, and welding operations. Slag from

these operations would likely contain heavy metals such as arsenic and lead. No testing of the slag and sludge wastes appears to have been performed.

- As noted in the XPA, PA, and ESA reports, Gunderson has maintained a Drum Storage Area with drums containing paints, solvents, petroleum products and RCRA waste products. Lead is a component of marine paints.
- The ESA report notes that sand blasting material storage and use have occurred on the site during the Gunderson operations. Sand blast grit commonly contains high concentrations of lead, copper, and arsenic.
- As noted in the ESA, PA, and XPA reports, Army Corps of Engineers fill was placed on the site prior to original development of Area 3. Historical (i.e., 1940s-1960s), dredge material placed along the Willamette River banks has been found to contain elevated concentrations of lead. For example, elevated lead concentrations have been detected in soil samples from throughout the upper 30 feet at the head of the Swan Island Lagoon where historical dredge spoils were placed.
- Storm water catch basin sediment samples collected in May and June 2003 noted elevated lead concentrations in catch basins on all portions of the Gunderson site, including far distant from the area of historical Area 3 operations. Elevated lead was detected in all of the catch basins sampled in Areas 1 and 2, areas removed from historical Area 3 operations. The elevated lead concentrations in these catch basins reflect Gunderson's current operations and confirm them as a source of lead.

Potential Gunderson Releases and Other Issues

Several facts presented in the various reports suggest that releases have occurred during the Gunderson operations. These facts belie Gunderson's focus on the historical operations as the sole source of contamination on the site. Examples of these "facts" include:

- Section 2.1 of the PA Report describes a "hazardous materials storage area" in Subarea 3D where solvents, paints, "process waste products", and hazardous wastes are stored. Section 3.2 notes that information on historical hazardous material management and disposal practices is not available. Section 5 of the PA Report notes that sampling and analysis at this feature has been "...confined to the remediation of two releases and an exploratory effort in the southern portion of the subarea." The "exploratory effort" noted petroleum hydrocarbons and lead in the shallow soil. Cleanup of spills in this area are not well documented and, for at least the March 1991 spill event, no confirmation samples were obtained after the reported soil removal. All of this discussion pertains only to reported spills.
- Tug maintenance operations occurred in the site area prior to placement of the dredge fill in the early 1960s. Such operations likely would have released petroleum hydrocarbons, metals, and PCBs (hydraulic oils, electrical equipment).
- Gunderson has been operating on the site for about 20 years compared to the duration of historical Area 3 operations (about 17 years). Given this similar period of operations

and the industrial nature of both company's operations, it is implausible to conclude that Gunderson has not contributed significantly to contamination present on the site.

- Catch basin sediment samples collected in 2003 noted PCBs and lead in catch basins in all areas of the site, not just the area of the historical Area 3 operations. Given that the catch basin sediments and the associated discharge to the Willamette River are representative of Gunderson's operations, it is clear that Gunderson is a current source of PCBs and lead and that PCBs and lead are not surrogates for contaminants associated with historical Area 3 operations.

- The consistent exceedance of storm water permit benchmarks demonstrates that *current* runoff from *current* operations are an *ongoing* source of contaminants to the river. Given that Gunderson has performed extensive regrading of the site and placed a gravel surface over most of the area, it is implausible that current runoff is affected by site operations 25 years ago.

- Gunderson has performed significant regrading and redevelopment of the site. Aerial photos from 1992 and 1980 clearly show significant site development in the area by Gunderson. Railroad tracks 24, 25, 26, and 27 were constructed by Gunderson and would have required significant earthwork and regrading. Such regrading, by its nature, would have moved around any pre-existing "hot spots" thus exacerbating any existing surface contamination. None of the reports describe how the excavated material was managed.

- Tables 20 through 28 in the XPA report claim that virtually no hazardous substances have been "Used, Generated, or Suspected" on any portion of Area 3. Although Gunderson acknowledges current use of PCBs in this area, they claim that no petroleum hydrocarbons or PAHs are "Used, Generated, or Suspected" except in a very small portion of the site. Given the ubiquitous nature of these substances on industrial sites and Gunderson's use of the site (e.g. petroleum product storage, rail car transport and storage), it is silly to claim that hazardous substances are not currently "Used, Generated, or Suspected" across the site.

- The XPA report claims there was a "battery pit" on the site and that wire burning was performed on the site. Gunderson does not provide specific references for these claims. Persons familiar with the historical operations on the Area 3 portion of the Site are not aware of any battery pit on the site. The few batteries that came into the site were kept on pallets and then sent to an off-site battery reclaimer.

- The XPA report notes that Gunderson has used cutting oils in their pipe cutting activities on the site. Although Gunderson claims that currently the cutting oils are amine-based solutions, cutting oils have historically contained PCBs.

- Section 3.6 of the PSCE Report states that American Ship Dismantlers was a "Schnitzer Company". It is not clear what is intended by this statement but implying that Schnitzer is liable for actions performed by American Ship Dismantlers suggests a legal opinion that is outside the scope of the PSCE Report.

Thank you for the opportunity to provide these comments regarding the Gunderson site documents. Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

Oregon
Theodore R. Kulongoski, Governor

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October 21, 2003

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RECEIVED
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By dlc 10/27/03
cc: T. Zelenka
M. Cusma
R. Rieke

RE: Gunderson – Remedial Investigation Work Plan
Task Phasing and Laboratory Analysis Adjustment
Area 3 (Former Schnitzer yard)
ECSI No. 1155

Dear Max:

This letter responds to the proposed adjustments to the implementation of the Area 3 remedial investigation as outlined in the Squier Associates September 8, 2003 memorandum "*Remedial Investigation Work Plan Task Phasing and Laboratory Analysis Adjustment Area 3 (Former Schnitzer Yard) Gunderson, Inc. Portland, Oregon*".

The proposed adjustments, as we understand them, include separating the investigation work into three phases (i.e., high, medium and low priority areas) with adjustments as necessary for access constraints. Gunderson and the Department of Environmental Quality (DEQ) have discussed the option of phasing work, and in general DEQ is amenable particularly in regards to working at an operating facility. Where site restrictions are present, DEQ is willing to consider alternative sample locations.

Phase I – High Priority Areas

The memorandum identifies Subareas 3B1, 3B2, 3B3, 3C2, 3E1, 3E2 and 3E3 as high priority areas. Note that the text identifies Subarea 3C2 as a high priority area although it is identified as a medium priority in Table 1. DEQ is agreeable to limiting the first phase of investigation to these areas provided the groundwater samples identified for collection in the other subareas are included with the Phase I work. Breaking up the groundwater investigation into numerous phases, as appears to be proposed in the memorandum, is not consistent with the development of the remedial investigation (RI) work plan. The purpose of the groundwater work is to obtain an initial screening of groundwater quality across the site with push probes, and based on the push probe data locate and construct monitoring wells. Characterization of groundwater early in the RI is a priority because of the sites proximity to the Willamette River.

The memorandum text appears to limit the analysis of soil samples from Subareas 3B1, 3B2, 3B3 and 3C2 to the surface and 2.5 foot samples. However, Table 1 retains the deeper samples

in these areas. The Phase 1 work needs to include analysis of the deeper soil samples from these areas as identified in Table1.

The memorandum also notes that areas identified by Gunderson as scheduled for upgrading and development are also to be included in the high priority or Phase I work. DEQ will certainly support this, although no areas were identified in the memorandum for site improvement.

Phase II - Medium Priority Areas

We disagree with the low priority designation for Subareas 3A2, 3A3 and 3D1. Surface soil from these areas is available for transport to the Willamette River via the Outfall 21 stormwater system. Poychlorinated biphenyls (PCBs) were detected in the stormwater discharge from Outfall 21 collected in March 2003 and initial characterization of the Outfall 21 catch basin sediments detected PCBs and high levels of di-n-butyl phthalate. Consequently, these subareas should be included in the medium priority areas or the Phase II work.

In the remaining low priority subareas, no sampling is proposed for Subarea 3A1 (other than existing monitoring well MW-14), and only two soil exploration points are proposed in Subarea 3C3. Because of the limited remaining low priority work, DEQ recommends that it be incorporated into the Phase II work.

Project Schedule

Although the memorandum identifies the need to conduct the Area 3 characterization in discrete phases, a schedule for this work is not identified. Completing the Area 3 characterization is a priority for DEQ. It is our expectation that the Phase I field work will be performed this year and reported by the end of February 2004 with Phase II work and follow up Phase I work initiated in the summer of 2004.

Please contact me at (503) 229-5538 once a field schedule is identified for the Phase I work or if you have any questions.

Sincerely,

Matt McClincy
Project Manager
Cleanup & Portland Harbor

cc: Dan Hafley, DEQ NWR
Tom Roick, DEQ NWR
Craig Coffee, Gunderson, Inc.
David King, Squier Associates

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Client: Schnitzer | Matter: Gunderson

DATE: October 27, 2003

No. of Pages (including this cover): 3 ☐ First Class Mail ☐ Overnight Delivery ☐ Hand Delivery

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COMMENTS: October 21, 2003 letter from DEQ to Max Miller.

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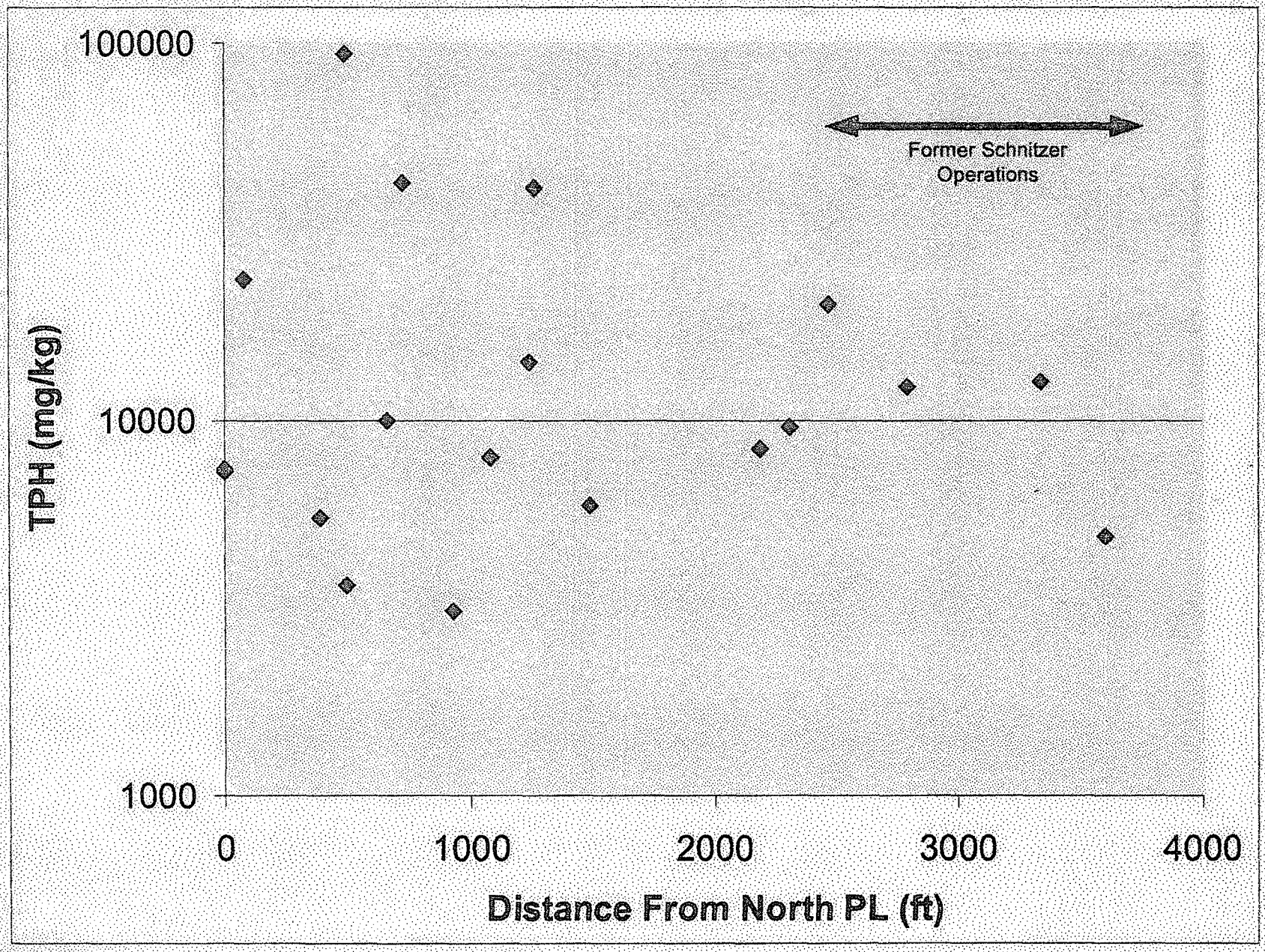

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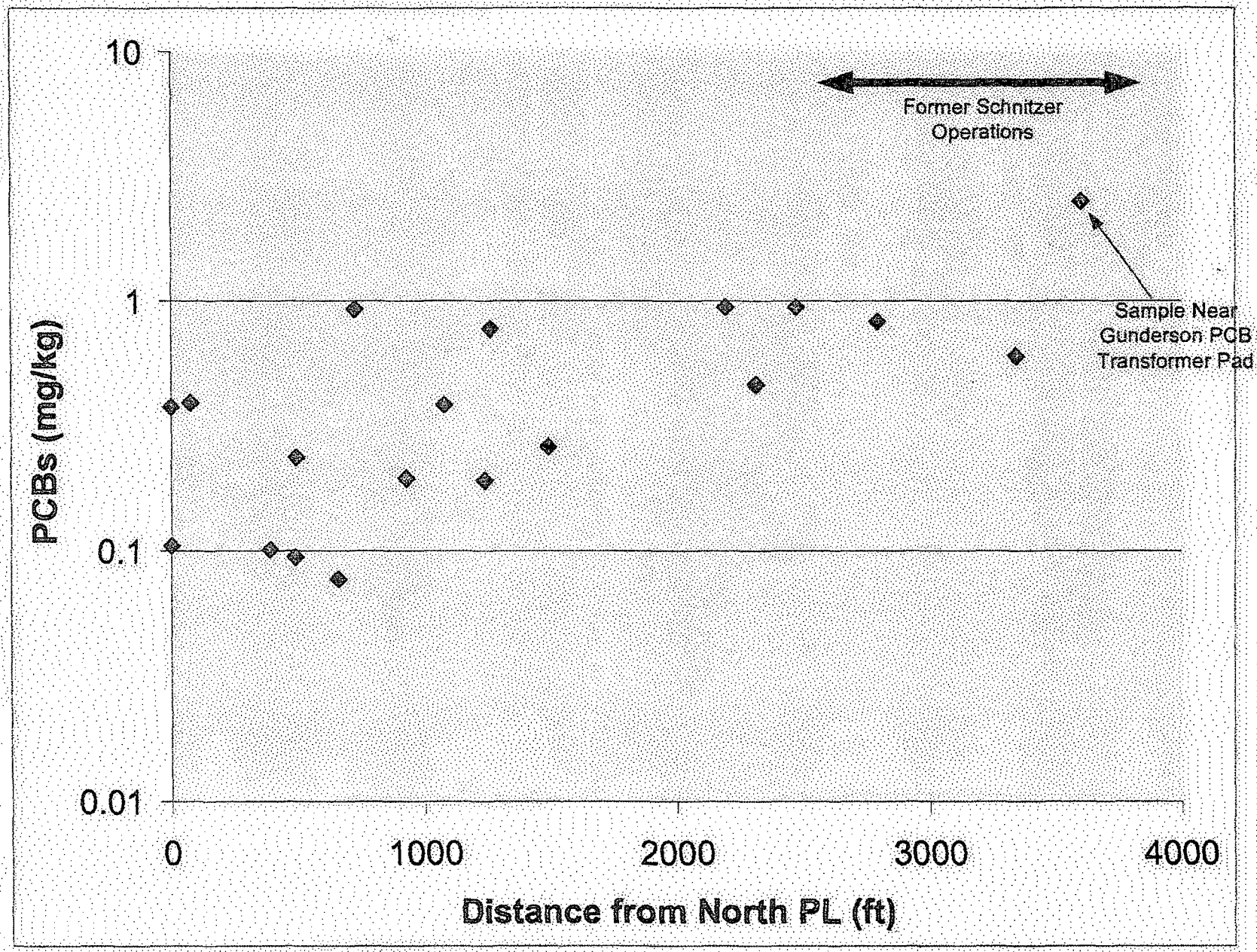

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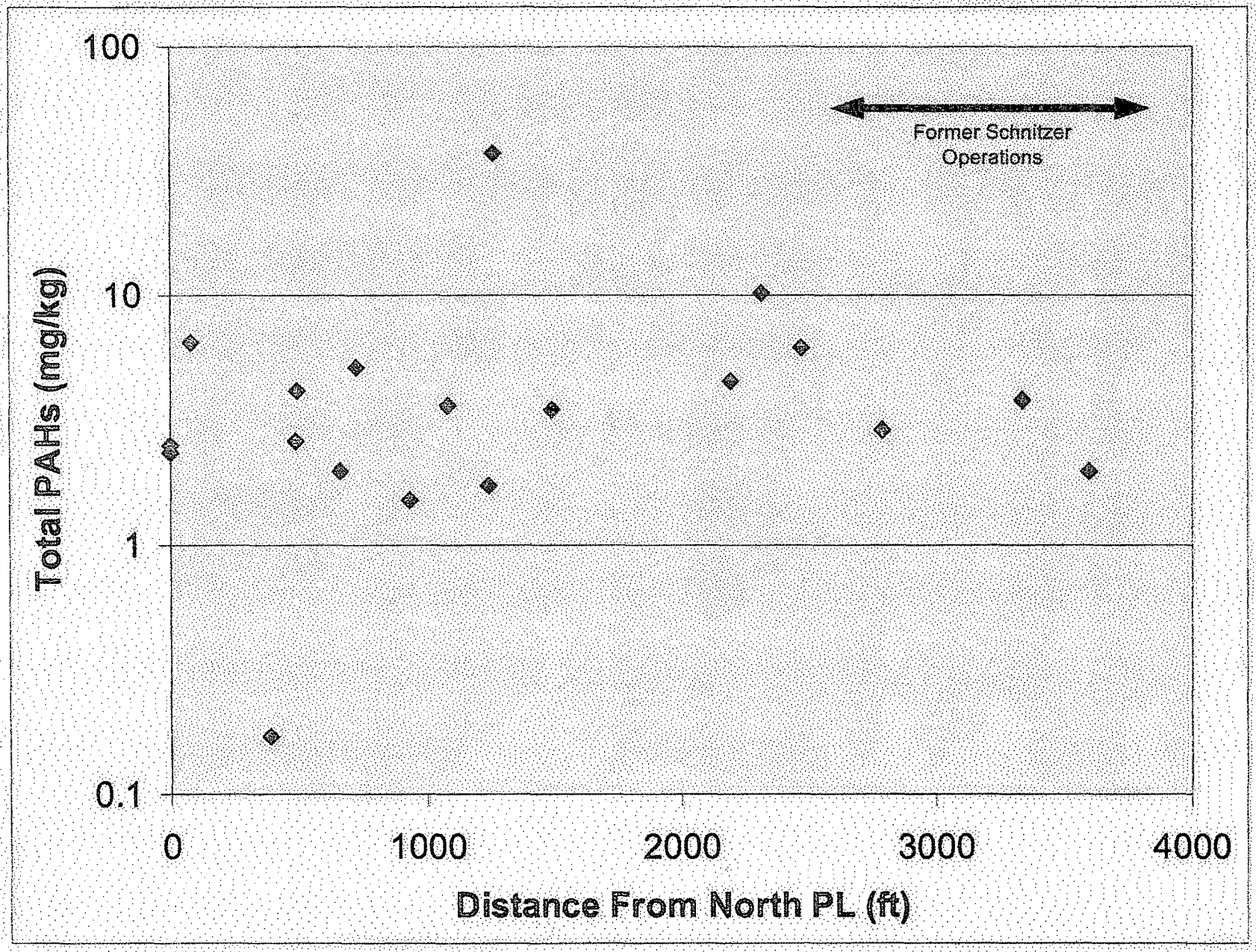

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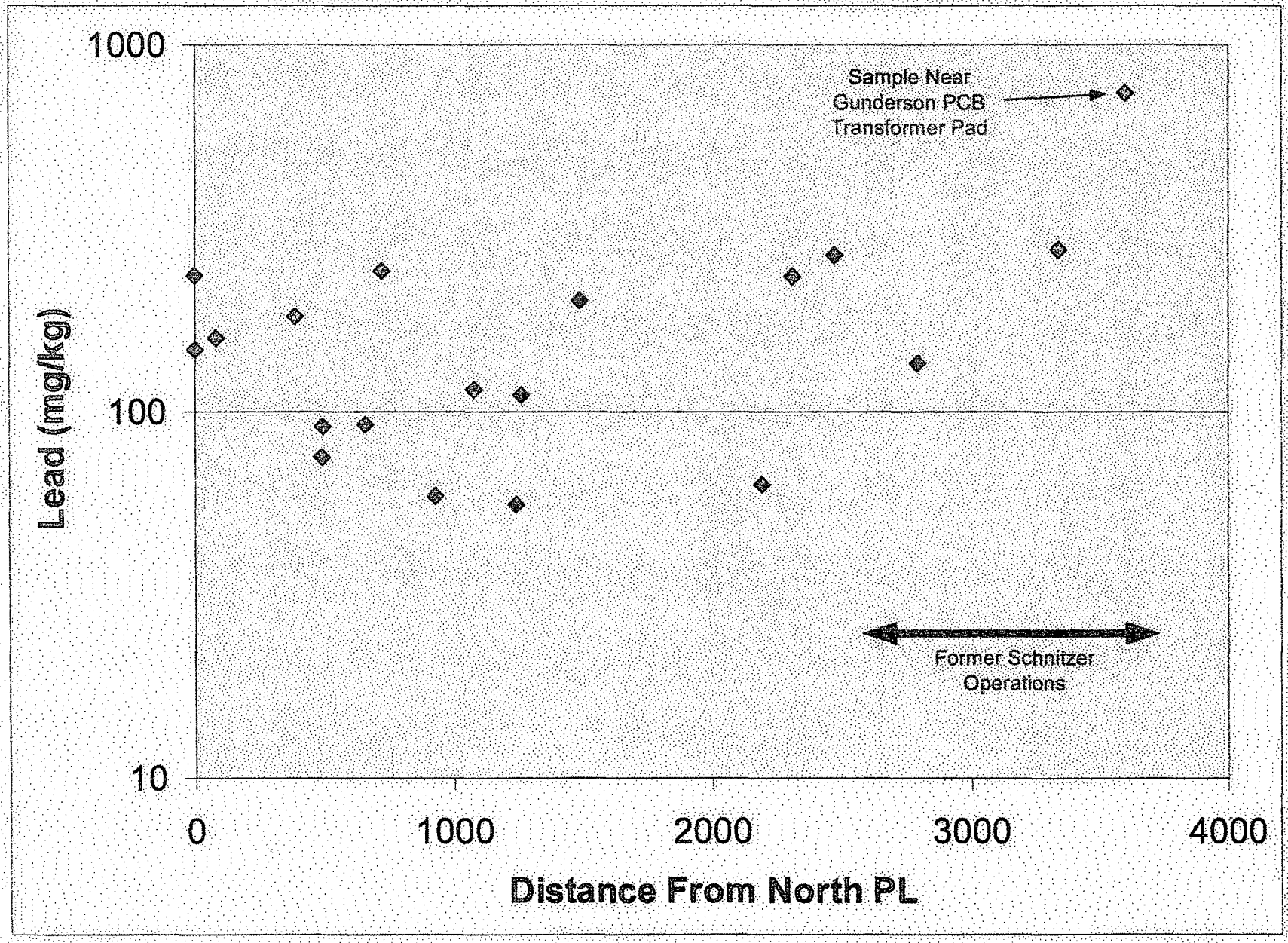

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09-10-03 11:40AM FROM-
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STOEL RIVES LLP
By 9/10/03
cc T. Zelenka
M. Cusma
Ross Lieke

SQUIER ASSOCIATES

Geotechnical and Geoenvironmental Consultants

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Area 3 Remediation

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DATE: September 8, 2003
PROJECT: 90445.92

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SEP 09 2003
TONKON TORP LLP

cc: Max Miller, Tonkon Torp LLP
Craig Coffey, Gunderson
Rusty Bridgers, Gunderson

FROM: David Earl King, R.G.
Principal Geologist

SUBJECT: **REMEDIAL INVESTIGATION WORK PLAN**
TASK PHASING AND LABORATORY ANALYSIS ADJUSTMENT
Area 3 (Former Schnitzer Yard)
Gunderson, Inc., Portland, Oregon

This memorandum presents an adjustment to the *Remedial Investigation Work Plan – Phase 1 (revised) for Gunderson's Area 3, the Former Schnitzer Yard* (April 28, 2003). The adjustment is in response to your letter of June 12, 2003, and as a result of information generated during the catch basin investigation previously reported to you, a survey of current activity at the site, and discussions with the former owner of Area 3, Schnitzer.

Our adjustment essentially consists of phasing the Work Plan Tasks according to established priorities. The phasing of the explorations is being proposed based on our understanding of the availability of open space for investigatory work in Gunderson's Area 3 (Former Schnitzer Yard). Specifically, Gunderson is actively using the Former Schnitzer Yard as a staging area for the short term and long term storage of equipment and materials. Accordingly, the sequentially progressive advancement of direct push explorations across the site in one sampling event is not feasible. Site restrictions will require that the explorations be conducted in discrete phases of varying size.

We propose to phase the explorations in terms of priority based upon the likelihood of risk to human health and the environment and planned future site use. The three key drivers in establishing priority are: proximity to the Willamette River, former land uses and planned

improvement or development by Gunderson. Essentially, those locations shown to have been significantly involved with ship dismantling and automobile destruction will be considered "High Priority". Accordingly, Subareas 3B (3B1, 3B2, and 3B3) and 3C2 will be considered "High Priority". In addition, those locations identified by Gunderson as being scheduled for upgrading and development will also be considered "High Priority".

It is our intent to maintain the field exploration point grid presented in the *Remedial Investigation Work Plan – Phase 1 (revised) for Gunderson's Area 3, the Former Schnitzer Yard* (April 28, 2003), with the exception of relocating GP-301 to the location presented in your June 12, 2003 letter (refer, Figure 1). Using the field exploration point grid will provide a unifying base for phased explorations. The use of a unifying base for field exploration points will facilitate the summation of site conditions.

We will evaluate the shallow soil samples (depths 0.5 feet and 2.5 feet) collected from field explorations in the "High Priority" explorations for the full suite of analytical tests as listed below:

- Petroleum hydrocarbons using the qualitative Northwest Method for hydrocarbon Identification (NWTPH-HCID), followed by the appropriate quantitative method for gasoline (NWTPH-Gx) or heavier hydrocarbons (NWTPH-Dx) if necessary.
- Semivolatile organic compounds, including polycyclic aromatic hydrocarbons (PAHs), phenols, and phthalates using U.S. Environmental Protection Agency (EPA) Method 8270C. PAHs have also been evaluated separately using Selective Ion Methodology (SIM) in conjunction with EPA Method 8270.
- Volatile organic compounds (VOCs) using EPA Method 8260B.
- Polychlorinated biphenyls (PCBs) using EPA Method 8082.
- Antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, manganese, nickel, selenium, silver, thallium, and zinc using EPA Method 6020.
- Mercury using EPA Method 7471A.
- Butyl tins (also known as organotins) using the method developed by the Washington Department of Ecology's Manchester Environmental Laboratory for the Puget Sound Estuary Program (PSEP).

After review of the analytical data obtained from the exploration of the "High Priority" locations, modifications to this analytical program will be proposed for other sampling locations. This process is in line with the generally accepted procedures of screening sites for contaminants and with previous discussions with DEQ. Based on our recently completed *Interim Data Report,*

Catch Basin Cleaning Activity (August 19, 2003) we anticipate that the chemical analysis for the following analytes will be dropped from the analytical program:

- Phenols (and other non-phthalate or non-PAH-related semivolatile organic compounds)
- Beryllium
- Cadmium
- Mercury
- Selenium
- Thallium

In addition, it may become apparent that the density of the sample locations, as proposed in Figure 1, will make it not necessary to evaluate some of the "Low Priority" locations. If this is the case we will propose an alternative sampling grid to DEQ.

If you have questions concerning this submittal, please do not hesitate to contact us.

DEK/ph

Attachments: Table 1
Figure 1

P:\PROJECTS.90\90445 GUNDERSON\90445.9 AREA 3 PA\AREA 3-RI\WORKPLAN-ADDENDUM2.DOC

Revised Table 1
Laboratory Testing Schedule

			0-6 feet												3.5 feet												6 feet												10 feet and 15 feet					20 feet or Vadose Zone				Ground Water							number soil samples	ground water samples
			petroleum	SVOCs	PAHs by gas	PCBs	15 metals	lead	chromium	cadmium	copper	mercury	butyl tins	petroleum	SVOCs	PAHs by gas	PCBs	15 metals	lead	chromium	copper	mercury	butyl tins	petroleum	SVOCs	PAHs	PCBs	15 metals	lead	chromium	copper	arsenic	petroleum	PAHs	VOCs	15 metals	butyl tins	SVOCs	VOCs	PCBs	15 metals	butyl tins	petroleum	VOCs	SVOCs	PAHs	PCBs	15 metals	butyl tins		
High Priority	Sector 3E3																																																						
	RB1-C10	HA-42	1	1	1	1	1						1	1	1	1	1	1					1																													3	
	RB1-C11																																																					0	
	RB1-C12	HA-43	1	1	1	1	1						1	1	1	1	1	1					1																													2	
	Sector 3E2																																																						
	RB1-C4	HA-39	1	1	1	1	1						1	1	1	1	1	1					1																													3	
	RB1-C5																																																					0	
	RB1-C6	HA-40	1	1	1	1	1						1	1	1	1	1	1					1																													3	
	RB1-C7																																																					0	
	RB1-C8	HA-41	1	1	1	1	1						1	1	1	1	1	1					1																													3	
	Sector 3E1																																																						
	RB1-C1	HA-37	1	1	1	1	1						1	1	1	1	1	1					1																													3	
	RB1-C2	HA-38	1	1	1	1	1						1	1	1	1	1	1					1																													3	
	RB1-C3																																																					0	
	Sector 3B1																																																						
	T1C6	HA-34	1	1	1	1	1						1	1	1	1	1	1					1																													1	
	T1C9	GP-312	1	1	1	1	1						1	1	1	1	1	1					1	1		1	1	1																							3	
	T1C10	GP-313	1	1	1	1	1						1	1	1	1	1	1					1	1		1	1	1						A	A	A				A				1	1	1	1	1	1	1	5	1
	Sector 3B2																																																						
	T1C11	GP-314	1	1	1	1	1						1	1	1	1	1	1					1	1		1	1	1						A	A	A				A				1	1	1	1	1	1	1	4	1
	T1C12	GP-315	1	1	1	1	1						1	1	1	1	1	1					1	1		1	1	1						A	A	A				A				1	1	1	1	1	1	1	4	1
	T2C11	GP-316	1	1	1	1	1						1	1	1	1	1	1					1	1		1	1	1						A	A	A				A				1	1	1	1	1	1	1	4	1
	T2C12	GP-317	1	1	1	1	1						1	1	1	1	1	1					1	1		1	1	1																							3	
	Sector 3B3																																																						
	T2C8	HA-36	1	1	1	1	1						1	1	1	1	1	1					1	1		1	1	1						A	A	A				A				1	1	1	1	1	1	1	3	1
	T2C9	GP-318	1	1	1	1	1						1	1	1	1	1	1					1	1		1	1	1						A	A	A				A				1	1	1	1	1	1	1	3	1
	T2C10	GP-319	1	1	1	1	1						1	1	1	1	1	1					1	1		1	1	1						A	A	A				A				1	1	1	1	1	1	1	3	1
			17	17	17	17	17	0	0	0	0	0	17	16	16	16	16	16	0	0	0	0	16	8	0	8	8	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	4	4	4	4	4	4	4	44	5
			petroleum	SVOCs	PAHs by gas	PCBs	15 metals	lead	chromium	cadmium	copper	mercury	butyl tins	petroleum	SVOCs	PAHs by gas	PCBs	15 metals	lead	chromium	copper	arsenic	butyl tins	petroleum	SVOCs	PAHs	PCBs	15 metals	lead	chromium	copper	arsenic	petroleum	SVOCs	VOCs	metals	butyl tins	SVOCs	VOCs	PCBs	15 metals	butyl tins	petroleum	VOCs	SVOCs	PAHs	PCBs	15 metals	butyl tins		

PAHs = polycyclic aromatic hydrocarbons
PCBs = polychlorinated biphenyls
15 metals = antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, and zinc
A = sample archived in laboratory for possible future analysis if further delineation of contamination is needed for evaluation

Revised Table 1
Laboratory Testing Schedule

			0.5 feet												2.5 feet												6 feet												10 feet and 15 feet								20 feet or Vadose Zone								Ground Water								number soil samples	groundwater samples
			petroleum	SVOCs	PAHs by SIM	PCBs	15 metals	lead	chromium	cadmium	copper	mercury	butyl tins		petroleum	SVOCs	PAHs by SIM	PCBs	15 metals	lead	chromium	cadmium	copper	mercury	butyl tins		petroleum	SVOCs	PAHs	PCBs	15 metals	lead	chromium	cadmium	copper	mercury	butyl tins		petroleum	PAHs	VOCs	15 metals	butyl tins				SVOCs	VOCs	PCBs	15 metals	butyl tins		petroleum	VOCs	SVOCs	PAHs	PCBs	15 metals	butyl tins			
Medium Priority	Sector 3C2 - Actual Testing Schedule May Be Modified After Review of High Priority Data																																																																			
	T4C9	GP-324	1	1	1	1	1								1	1	1	1	1	1							1		1	1	1	1																																	3	
	T4C10	GP-325	1	1	1	1	1							1	1	1	1	1	1	1						1	1		1	1	1	1	1						A	A	A	A				A			A	A	1	1	1	1	1	1	1				3	1
	T4C11	GP-326	1	1	1	1	1							1	1	1	1	1	1	1						1	1		1	1	1	1	1						A	A	A	A				A			A	A	1	1	1	1	1	1	A				3	
	T4C12	GP-327	1	1	1	1	1								1	1	1	1	1	1							1		1	1	1	1	1						A	A	A	A				A			A	A	1	1	1	1	1	1	1				3	1
	T5C9	GP-328	1	1	1	1	1								1	1	1	1	1	1							1		1	1	1	1	1						A	A	A	A				A			A	A	1	1	1	1	1	1	A				3	1
	T5C10	GP-329	1	1	1	1	1								1	1	1	1	1	1							1		1	1	1	1	1																														3	
	T5C11	GP-330	1	1	1	1	1								1	1	1	1	1	1							1		1	1	1	1	1						A	A	A	A				A			A	A	1	1	1	1	1	1	A				3	1
	T5C12	GP-331	1	1	1	1	1								1	1	1	1	1	1							1		1	1	1	1	1																														3	
	Sector 3D3 - Actual Testing Schedule May Be Modified After Review of High Priority Data																																																																		
	T2C7																																																																		0	
	T3C7	GP-342				1												1	A	1									1	A		1																																	3	
	T3C8	GP-343	1	1	1	1	1								1	1	1	1	A								1		1	1	A																																	3	
	T4C7																																																																		0	
	T4C8	GP-344	1	1	1	1	1								1	1	1	1	A	1							1		1	1	A	1							A	A	A	A				A			A	A	1	1	1	1	1	1					3	1
	T5C7	GP-345	1	1	1	1	1								1	1	1	1	A	1	1	1	1				1		1	1	A	1			1	1			A	A	A	A				A			A	A	1	1	1	1	1	1					3	1
	T5C8	GP-347	1	1	1	1	1								1	1	1	1	1	1							1		1	1	A	1							A	A	A	A				A			A	A	1	1	A	A	1	1					3	1
	T6C7	GP-348	1	1	1	1	1								1	1	1	1	A	1							1		1	1	A	1							A	A	A	A				A			A	A	1	1	1	1	1	1					3	1
	T6C8	GP-349	1	1	1	1	1								1	1	1	1	A	1							1		1	1	A	1																																	3	
	T7C7																																																																		0	
	T7C8																																																																		0	
	Sector 3C1 - Actual Testing Schedule To Be Modified After Review of High Priority Data																																																																		
	T3C6	GP-320																																																																	0	
	T3C10	GP-321	1	1	1	1	1							1	1	1	1	1	1	1						1	1		1	1	1	1							A	A	A					A					1	1	1	1	1	1	1				4	1
	T3C11	GP-322																																																																	0	
	T3C12	GP-323	1	1	1	1	1							1	1	1	1	1	1	1						1	1		1	1	1	1							A	A	A					A					1	1	1	1	1	1	1				2	1
	Sector 3D2 - Actual Testing Schedule To Be Modified After Review of High Priority Data																																																																		
	T3C4	GP-337	1	1	1	1	1											1	1										1	A	1		1	1																														3	
	T5C5																																																																		0	
	T5C6	GP-338	1	1	1	1	1							1	1	1	1	1	1	1						1	1		1	A	1		1	1					A	A	A	A	A		A	A	A	A	A	1	1	1	1	1	1	1				3	1
	T6C4	GP-339	1	1	1	1	A								1	1	1	1	A								1		1	A																																	7	
	T6C5	GP-340	1	1	1	1	1								1	1	1	1	1								1		1	A																																	3	
	T6C6	GP-341	1	1	1	1	1								1	1	1	1	1	1						1	1		1	A	1								A	A	A	A	A	A	A	A	A	A	A	1	1	1	1	1	1	1				6	1
	T7C4																																																																		0	
	T7C5																																																																		0	
	T7C6																																																																		0	
			20	20	20	22	20	0	0	0	0	0	7		20	20	20	22	94	4	1	1	1	1	6		20	0	18	22	10	18	1	1	4	4		0	0	0	0	0		0	0	0	0	0		12	12	11	11	12	12	6		73	17
			petroleum	SVOCs	PAHs by SIM	PCBs	15 metals	lead	chromium	cadmium	copper	mercury	butyl tins		petroleum	SVOCs	PAHs by SIM	PCBs	15 metals	lead	chromium	cadmium	copper	mercury	butyl tins		petroleum	SVOCs	PAHs	PCBs	15 metals	lead	chromium	cadmium	copper	mercury	butyl tins		petroleum	SVOCs	VOCs	15 metals	butyl tins				SVOCs	VOCs	PCBs	15 metals	butyl tins		petroleum	VOCs	SVOCs	PAHs by SIM	PCBs	15 metals	butyl tins			

PAHs = polycyclic aromatic hydrocarbons
PCBs = polychlorinated biphenyls
15 metals = antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, and zinc
A = sample archived in laboratory for possible future analysis if further delineation of contamination is needed for evaluation

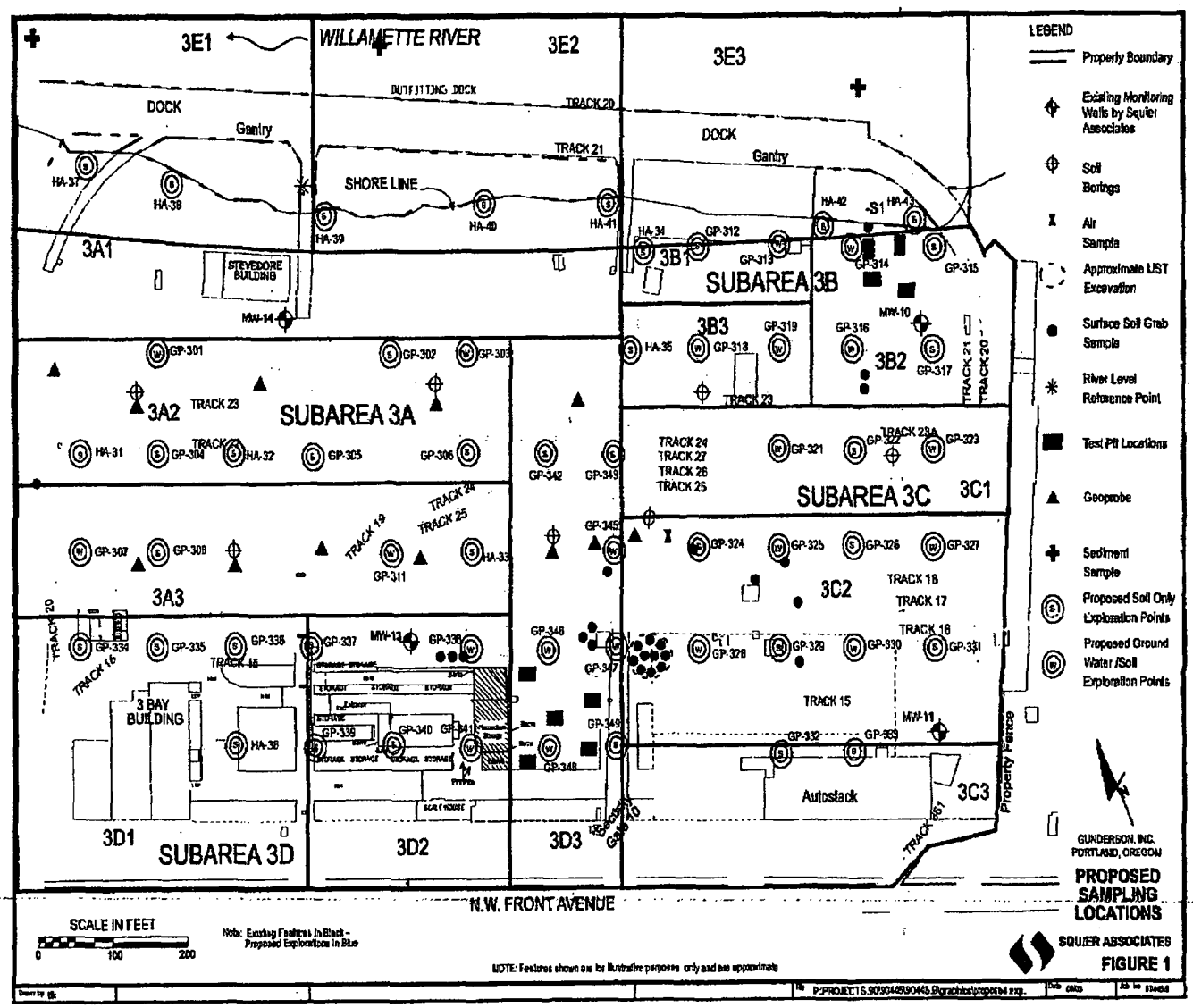
SCHN00151789

Revised Table 1
Laboratory Testing Schedule

Priority	Sample	0.5 feet											2.5 feet											5 feet											10 feet and 15 feet					20 feet or Various Zone					Ground Water						number soil samples	ground water samples
		petroleum	SVOCs	Hxlks by pH	PCBs	15 metals	lead	chromium	cadmium	copper	mercury	butyl tins	petroleum	SVOCs	Hxlks by pH	PCBs	15 metals	lead	chromium	copper	mercury	butyl tins	petroleum	SVOCs	PAHs	PCBs	15 metals	lead	chromium	copper	arsenic	butyl tins	petroleum	PAHs	VOCs	15 metals	butyl tins	SVOCs	VOCs	PCBs	15 metals	butyl tins	petroleum	VOCs	SVOCs	PAHs	PCBs	15 metals	butyl tins		
Low Priority	**Sector 3A2 - Actual Testing Schedule To Be Modified After Review of High Priority and Medium Priority Data**																																																		
	T2C1																																																	0	
	T2C2 GP-301	1	1	1	1	1						1	A	A	A	A	A					A	A	A	A	A	A						A	A	A	A		A	A	A	A	A	1	1	1	1	A	1	1	6	1
	T2C3																																																	0	
	T2C4																																																	0	
	T2C8 GP-302	1		1	A	A		1					A		A	A	A						A		A	A	A		1																					5	
	T2C9 GP-303	1	1	1	A	1							A		A	A	A		1				A		A	A	A		1				A	A	A	A	A	A	A	A	A	A	1	1	1	1	A	1	1	6	1
	T3C1 HA-31	1		1	A	A		1					A		A	A	A		1																															4	
	T3C2 GP-304	1	1	1	1	1							1	1	1	1	1						1	1	1	1	A	1																						3	
	T3C3 HA-32	1		1	A	A		1					A		A	A	A																																	3	
	T3C6 GP-305	1	1	1	1	A							1		1	1	A						1		1	1	A																							10	
	T3C8																																																	0	
	T3C9 GP-306	1	1	1	1	A							1		1	1	A		1				1		1	1	A		1																						3	
	Sector 3A3 - Actual Testing Schedule To Be Modified After Review of High Priority and Medium Priority Data																																																		
	T4C1 GP-307	1	1	1	1	1							1		1	1	1						1			1	A		1				A	A	A	A		A	A				1	1	1	1	1	1		3	1
	T4C2 GP-309	1	1	1	1	A		1	1				1		1	1	A		1				1			1	A		1																						3	
	T4C3 GP-308																																																	0	
	T4C4 GP-310																																																	0	
	T4C8 GP-311	1		1	1	A	1	1					1	1	1	1	A		1				1		1	1	A		1				A	A	A	A		A	A				1	1	1	1	1	1		3	1
	T4C9 HA-33	A		A	1	A	1	1					A		A	A	A																																	1	
	Sector 3D1 - Actual Testing Schedule To Be Modified After Review of High Priority and Medium Priority Data																																																		
	T5C1 GP-334	1	1	1	1	A		1					1		1	1	A									1	A		1																						3	
	T5C2 GP-336	1	1	1	1	A		1					1		1	1	A		1							1	A																								3	
	T5C3 GP-335	1	1	1	1	A		1					1		1	1	A									1	A																								3	
	T5C7																																																	0	
	T5C2																																																	0	
	T5C3 HA-34	1		1	1	A							1		1	A	A		1																																3	
	T7C1																																																	0	
	T7C2																																																	0	
	T7C3																																																	0	
	Sector 3C3 - Actual Testing Schedule To Be Modified After Review of High Priority and Medium Priority Data																																																		
	T6C9																																																	0	
	T6C10 GP-332				1	A	1	1	1	1	1					1	A	1								1	A	1																						3	
	T6C11 GP-333				1	A	1	1	1	1	1					1	A	1								1	A	1																						3	
	T6C12																																																	0	
	T7C9																																																	0	
	T7C10																																																	0	
	T7C11																																																	0	
	T7C12																																																	0	
	Sector 3A1																																																		
	T1C1																																																	0	
	T1C2																																																	0	
	T1C3																																																	0	
	T1C4																																																	0	
	T1C5																																																	0	
	T1C7																																																	0	
		15	10	15	14	4	4	10	2	2	1		10	2	15	11	2	2	7	0	0	0	6	6	4	11	0	3	7	0	0		0	0	0	0		0	0	0	0		4	4	4	4	2	4	2	66	4
		petroleum	SVOCs	Hxlks by pH	PCBs	15 metals	lead	chromium	cadmium	copper	mercury	butyl tins	petroleum	SVOCs	Hxlks by pH	PCBs	15 metals	lead	chromium	copper	arsenic	butyl tins	petroleum	SVOCs	PAHs	PCBs	15 metals	lead	chromium	copper	arsenic		petroleum	SVOCs	VOCs	metals		SVOCs	VOCs	PCBs	15 metals	butyl tins	petroleum	VOCs	SVOCs	Hxlks by pH	PCBs	15 metals	butyl tins		

PAHs = polycyclic aromatic hydrocarbons
PCBs = polychlorinated biphenyls
15 metals = antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, and zinc
A = sample archived in laboratory for possible future analysis if further delineation of contamination is revised for evaluation

SCHN00151790



SCHN00151791

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TO:	Ross Rieke	(503) 675-1960	Bridgewater Group	(503) 675-5252
	Tom Zelenka	(503) 299-2277	The Schnitzer Group	(503) 323-2821
	Mat Cusma	(503) 286-6948	The Schnitzer Group	(503) 286-6944

	Name:	Sender's Direct Dial:	Sender's Direct Email:
FROM:	Joan P. Snyder	(503) 294-9657	jpsnyder@stoel.com

Client:	Schnitzer	Matter:	Gunderson

DATE: September 10, 2003

No. of Pages (including this cover): 8 ☐ First Class Mail ☐ Overnight Delivery ☐ Hand Delivery

In case of error call the fax operator at (503) 294-9508 or (503) 294-9199.

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COMMENTS: 9/3/03 memo from Gunderson to DEQ re an adjustment to the RI Work Plan – Phase 1.

Portlnd3-1369188 1 0068163-00033

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

September 11, 2003

Ms. Carol Samot
DPRA
332 Minnesota Street, Suite E-1500
St. Paul, MN 55101-1314

Subject: Schnitzer Insurance Claim
Portland Harbor, Portland, Oregon

Dear Ms. Samot:

As you requested during our September 5, 2003 telephone conversation, please find enclosed the following document:

- *Phase II Remedial Investigation Results, Burgard Industrial Park*, dated May 30, 2003, prepared by Bridgewater Group.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

Enclosure

cc: *Mat Cusma/Schnitzer w/o enclosure*

BRIDGEWATER GROUP, INC.

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FAX: (503) 675-1960
rrieke@bridgeh2o.com

March 20, 2003

Ms. Mary Sands
DPRA
332 Minnesota Street, Suite E-1500
St. Paul, MN 55101-1314

Subject: Schnitzer Insurance Claim
Portland Harbor, Portland, Oregon

Dear Ms. Sands:

As requested in your March 13, 2003 email, please find enclosed the following documents:

- *Site History Review*, dated September 25, 2000, prepared by Bridgewater Group.
- *Current Site Conditions Assessment*, dated November 1, 2000, prepared by Bridgewater Group.
- *Storm Water System Assessment*, dated December 22, 2000, prepared by Bridgewater Group.
- *Pre-RI Assessment Report*, dated February 28, 2001, prepared by Bridgewater Group.
  RI Proposal, dated May 7, 2001, prepared by Bridgewater Group.
- *Preliminary Site Assessment and RI Proposal - Gunderson Area 3, Former Schnitzer Steel Yard.*
- January 11, 2002, memo to Oregon DEQ regarding storm drain outfalls.
- *DEQ Site Assessment Program - Strategy Recommendations* with attachment, dated November 9, 1999.

I have also included the following more recent Gunderson site document:

- *Expanded Preliminary Site Assessment, Gunderson Area 3, Former Schnitzer Steel Yard*, dated July 2002, prepared by Squier Associates.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

Enclosures

cc: Mat Cusma/Schnitzer

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November 1, 2005

Mr. Michael Romero
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
July through September 2005
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period July through September 2005 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed July through September 2005

- Continued to review site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.

Activities Planned October through December 2005

- Continued review of site conditions and storm water monitoring data to identify potentially appropriate BMP improvements.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated July through September 2005

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced July through September 2005

No problems were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

SCHNITZER STEEL INDUSTRIES, INC.

3200 NW Yeon Avenue
P.O. Box 10047
Portland, Oregon 97296-0047
Phone: (503) 224-9900
Fax: (503) 323-2804
Telex: 289875

August 29, 2005

Mr. Michael Romero
Oregon Department of Environmental Quality, Northwest Region
2020 SW 4th Ave, Ste. 400
Portland, Oregon 97201

Subject: Response to Information Request
International Terminal Dock Construction

Dear Michael,

I am writing in response to your August 23, 2005, request for additional information related to the excavation activities being undertaken at International Terminals as part of the dock reconstruction project.

As we discussed by telephone, the excavation in question involves upland soils that have been historically isolated under asphalt and concrete surface pavement, and behind a steel bulkhead wall. The soils have not been subject to erosion or potential entrainment in stormwater, nor is the excavated area subject to these concerns. The excavated area is still isolated from the slip by the steel bulkhead, and the area will be capped with a concrete slab (the new dock deck). Drawings showing the extents of the excavation and a typical cross-section are enclosed for reference.

As detailed in the initial dock construction notification to DEQ (dated May 23, 2002, attached), the International Terminals dock project was required to repair the deteriorating structure, and to provide for modifications necessary for the continued safe operation of the dock for the foreseeable future. Much of the required in-water work (e.g., pile driving and geotechnical sampling) was performed in 2002, and remaining work is focused primarily on upland construction. (Installation of five additional support piling may be pursued under the existing permit and the SLOPES III framework.)

Under the Burgard Remedial Investigation, two boreholes were advanced in the general vicinity of the excavation – PP-5 (Phase I) and PP-7 (Phase II). Although neither borehole included sampling of the specific soils removed in the excavation, the borehole were located with the specific intent of discovering potential

contamination related to historical site activities. Therefore, results of this sampling were expected to provide a conservative determination of the potential for contamination of the soils to be excavated.

- Soil samples were collected from 5 foot depth intervals from PP-5, and analyzed for Total Petroleum Hydrocarbons, with follow-up analysis for PAHs if TPH were detected. The samples were also evaluated in the field for VOCs by headspace analysis, with follow-up analysis for VOCs if the results were positive. TPH was found to be below detection limits for all samples from PP-5, and no VOCs were detected in the headspace testing.

- A groundwater sample was collected from the shallow water table at PP-5, and was submitted for VOC analysis. No VOCs were detected in the groundwater sample from PP-5.

- A groundwater sample was collected from the shallow water table at PP-7, and was submitted for VOC analysis. No VOCs were detected in the groundwater sample from PP-7.

Complete results and other information related to the sampling and analysis are included in the Phase I Remedial Investigation Data Report (May 2002) and the Phase II Remedial Investigation Results (May 2003).

Despite the fact that no contamination is expected to be present in the excavated soil, the soil has been stockpiled onsite on plastic sheeting pending sampling and analysis to determine appropriate disposal options. The soil will be characterized for upland disposal. Sampling requirements are currently being discussed with several landfills. A final decision on numbers of samples and for what parameters will be determined once those discussions are finalized. We estimate a minimum of six soil samples will be collected and likely analyzed for VOCs, PCBs, PAHs, TPH, and metals.

I hope this information meets your needs. We look forward to meeting with you in the near future to discuss the status of the RI and answer any additional questions you may have.

Sincerely,

SCHNITZER STEEL INDUSTRIES, INC.

Jim Jakubiak
Environmental Administrator

Attachments

Cc: Mat Cusma

NORWEST ENGINEERING
Consulting Engineers

Since 1975

4110 N.E. 122nd Ave., Suite 207 Portland, Oregon 97230 (503) 254-0110

SI
17R1
Agency Comm

COPY

May 23, 2002

Alicia C. Voss
Voluntary Cleanup and Portland Harbor Section
2020 SW Fourth Ave., Suite 400
Portland, OR 97204

Subject: Notice Of Construction Project
International Terminals

Dear Ms. Voss:

Norwest Engineering has been retained by Schnitzer Steel Products Co. to provide the engineering, permitting and project management responsibilities for their 'Phase 1, Dock Modifications & Crane Upgrade' project at Schnitzer's International Terminals located at 12005 N. Burgard Road, Portland. As part of Schnitzer's Voluntary Clean-up Agreement with the Oregon Department of Environmental Quality, it is our understanding that you are to be notified in the event of any planned work at or near the above referenced facility that may disturb the adjacent river or vessel slip sediments. This letter is to provide you formal notice as required by the referenced agreement. Our intent is to proceed with this project, as briefly described below:

A recent engineering inspection and evaluation of the dock structure at International Terminals determined and concluded that the existing timber piles have experienced extensive deterioration creating a clear safety concern for operations and personnel. The proposed dock modifications consist of repairing approximately 240 existing deteriorated timber support piles and replacing approximately 300 timber fender piles with steel pipe piles. This work has been approved by the US Army Corps of Engineers (File #2001-00870) and the State of Oregon, Division of State Lands (Permit #24809). Also see the attached drawing 2816-001, further illustrating and indicating this work.

In conjunction with repairing and replacing the deteriorated timber piles, Schnitzer Steel Products Co. will install a fourth ship and barge loading / unloading crane. This crane installation requires the strengthening of the existing outboard crane rail support, as well as construction of upland crane rails, including the installation of approximately (36) 24" Ø x 120' pipe piles, new concrete caps, new concrete crane girders and new steel rails. The outboard crane rail support will involve the installation of approximately (54) 24" Ø x 120' in-water pipe piles, new steel pile caps and new steel crane girders.

An in-water and upland geotechnical study will be required for this project in order to determine required pile depth and design load bearing capacity. Norwest Engineering has requested that the existing permits be modified to include this work. We have already received approval from the Division of State Lands and expect approval from the Corps of Engineers in the near future. This work is illustrated on the attached drawings D2839-002 & 003.

It is anticipated that all project work will be performed and completed during the July through October 2002, in-water work window.

RECEIVED
MAY 28 2002
By CC 5/24/02

We understand the VCP agreement between Schnitzer and the Oregon Department of Environmental Quality requires the following issues to be addressed:

a) *Evaluate the concentration of hazardous substances present in and below the affected sediments based on sampling and analyses performed in advance of the notice.*

There are no "affected sediments". The project does not involve any dredging activities.

b) *Document the steps to be taken to ensure that both the activity and the subsequent management and disposal of dredged spoils will be conducted in a manner protective of human health and the environment.*

Again, there are no dredging activities associated with this project. Construction activities will consist of the repair of the deteriorated existing timber piles, the removal of the untreated timber fender piles, driving new steel pipe fender piles, replacement of deteriorated timber dock support members with new steel members and driving new pipe piles for support of the crane mentioned above. Construction debris will not be permitted to enter the waterway. Full time construction supervision and project management by Norwest Engineering will take place throughout the construction period.

c) *Evaluate the effect of the activity on the Portland Harbor Remedial Investigation and Feasibility Study.*

We do not anticipate any effect on the Harbor investigation and study.

Again, this letter is submitted to meet Schnitzer's requirements to notify the DEQ before undertaking any dredging or other activities. A copy of Corps of Engineers and DSL permit application covering this work is attached.

If you have further questions, please call. You can also contact me at mhagan@norwestengineering.com.

Norwest Engineering

Michael D. Hagan
Project Manger

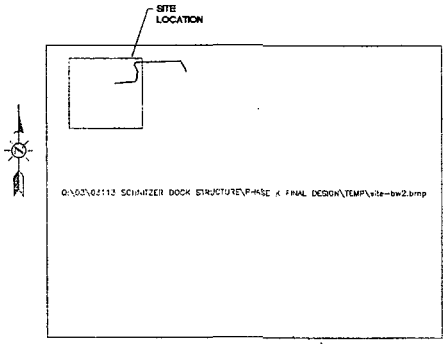
cc: w/o enclosure
T. Glucoft, Schnitzer
M. Cusma, Schnitzer
J. Goodrich, Schnitzer
J. Deppa, Norwest

SCHNITZER STEEL INDUSTRIES INC.

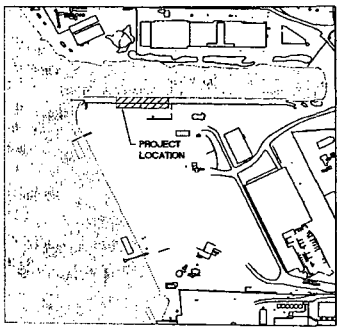
INTERNATIONAL TERMINALS

BERTH 1 - DOCK MODIFICATIONS
PHASE 2 - CONSTRUCTION

REVISION TO BUILDING PERMIT 02-146681-000-00-CO



VICINITY MAP



SITE PLAN

DRAWING LIST	
03-113K-T1	COVER SHEET W/ VICINITY MAP, SITE PLAN & LEGEND
03-113K-G41	GENERAL ARRANGEMENT PLAN
03-113K-G42	GENERAL ARRANGEMENT SECTION
03-113K-S1	STRUCTURAL NOTES
03-113K-S2	STRUCTURAL NOTES
03-113K-S3	DECK FRAMING & RAILWAY PLANS (WEST)
03-113K-S4	DECK FRAMING & RAILWAY PLANS (EAST)
03-113K-S5	SLAB PLAN (WEST)
03-113K-S6	SLAB PLAN (EAST)
03-113K-S7	SECTION
03-113K-S8	SECTION
03-113K-S9	SECTION
03-113K-S10	DECK DETAILS
03-113K-S11	DECK DETAILS
03-113K-S12	DECK DETAILS
03-113K-S13	CRANE RAIL DETAILS
03-113K-S14	RELIEVING PLATFORM & APPROACH SLAB SECTIONS
03-113K-S15	RAILWAY DETAILS
03-113K-S16	RAILWAY DETAILS
03-113K-S17	BOLLARD AND TIEDOWNS DETAILS
03-113K-C1	DRAINAGE & PIPING PLAN (WEST) & NOTES
03-113K-C2	DRAINAGE & PIPING PLAN (EAST) & DETAILS
03-113K-C3	DRAINAGE/PIPING SECTION

LEGEND

(X'-XX") — FILE BRG DIMENSION CONTENED ON FILE DRAWS BASED ON THE SITE SURVEY PREPARED BY CASWELL/NEIFEL SURVEYORS INC., DATED JANUARY 19, 2001, ADJUSTED TO THE NEAREST 1/8-INCH.

(Y'-YY") — REFERENCE DIMENSION USE OF REQUIRES FIELD VERIFICATION

XX — TOTAL NUMBER OF 3/4"ø# SHEAR CONNECTORS TO BE EVENLY DISTRIBUTED ALONG THE LENGTH OF THE BEAM OR BETWEEN BEAMS. BEAMS WITHOUT INDICATED QUANTITIES SHALL HAVE SHEAR CONNECTORS AT 12" OC. STUD LENGTH INDICATED IS AFTER WELDING.

SEE DRAWING G42 FOR ABBREVIATIONS.

SITE ADDRESS
12005 N BURGARD RD, PORTLAND, OREGON 97203

LEGAL DESCRIPTION
TAX LOT 300
SECTION 35, T2N, R1W, WM
CITY OF PORTLAND
MULTNOMAH COUNTY
OREGON

ZONING
HEAVY INDUSTRIAL (IH)

OCCUPANCY GROUP
U2

CONSTRUCTION
I-N

THIS DRAWING REMAINS THE PROPERTY OF SMITH & MONROE & GRAY ENGINEERS, INC. (SMG) THE DESIGNS SHOWN ON THIS DRAWING ARE INTENDED FOR USE ONLY ON THE PROJECT SHOWN. DO NOT SCALE DRAWINGS. THIS DRAWING IS NOT STAMPED WITH AN INK SEAL. THIS DRAWING MAY ONLY BE REPRODUCED FROM AN UNAUTHORIZED ELECTRONIC COPY. REFER TO A CERTIFIED AND SEALED HARD COPY OF THIS DRAWING FOR THE AUTHORITATIVE DOCUMENT. THIS DRAWING MAY NOT BE USED IN A MANNER THAT WOULD BE DETRIMENTAL TO THE INTERESTS OF THIS COMPANY. ALTERNATE USE OF THIS DRAWING IS NO HINDRANCE TO THE AUTHOR.

Rev	Revisions	By	Date	Chk'd
C	ISSUED FOR CONSTRUCTION		4/29/05	
B	ISSUED FOR IDR REVIEW		4/1/05	
A	ISSUED FOR DD REVIEW		12/1/05	

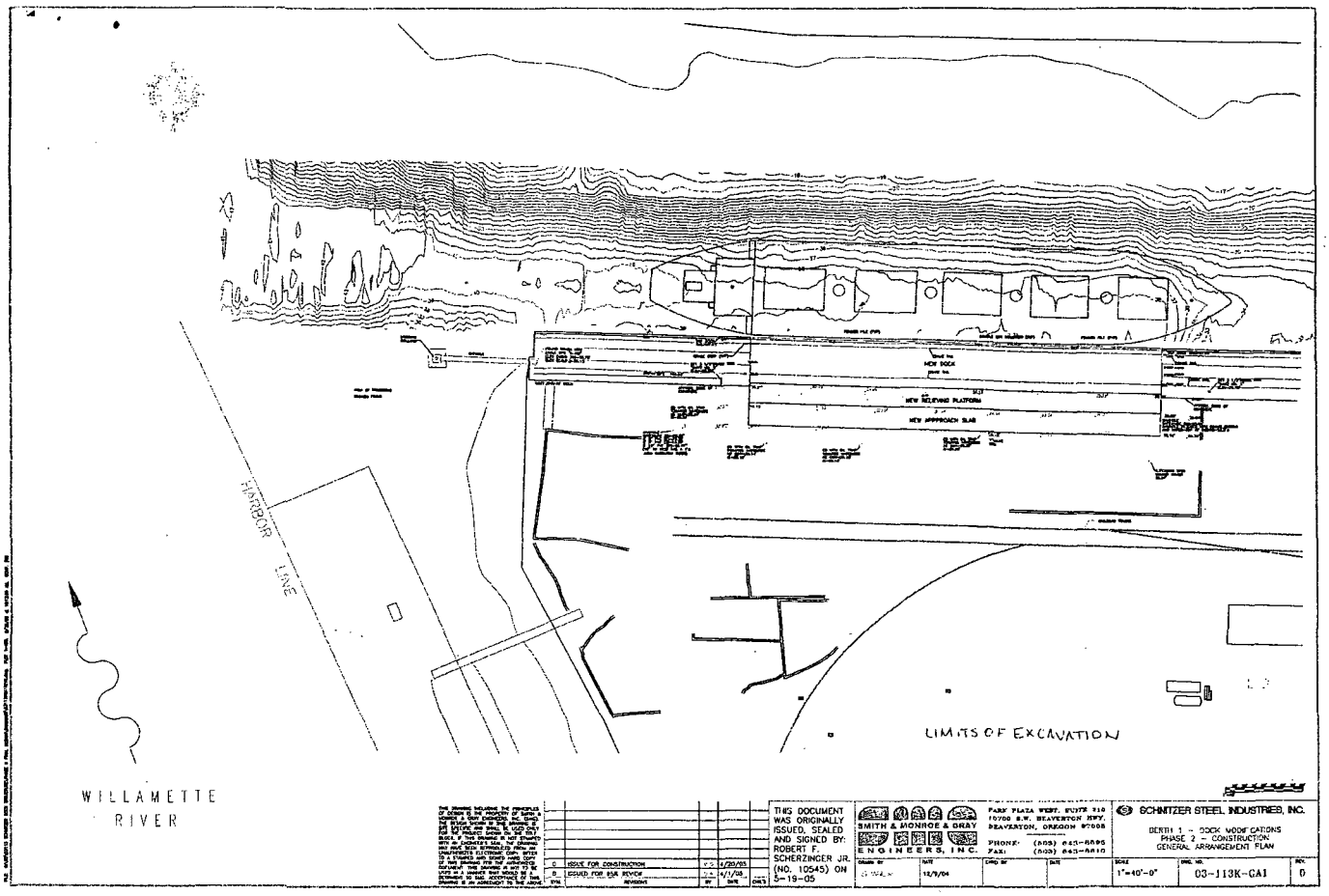
THIS DOCUMENT WAS ORIGINALLY ISSUED, SEALED AND SIGNED BY: ROBERT F. SCHERZINGER JR. (NO. 10545) ON 5-19-05

SMITH & MONROE & GRAY ENGINEERS, INC.
PARK PLAZA WEST, SUITE 210
10700 S.W. BEAVERTON HWY.
BEAVERTON, OREGON 97005
PHONE: (503) 643-8055
FAX: (503) 643-8610

SCHNITZER STEEL INDUSTRIES, INC.
BERTH 1 - DOCK MODIFICATIONS
PHASE 2 - CONSTRUCTION
VICINITY MAP, SITE PLAN & LEGEND

Drawn By	Date	Chkd By	Site	Scale	Dwg. No.	Rev.
D. [illegible]	1/4/05			AS NOTED	03-113K-T1	0

SCHN00152057



C	ISSUE FOR CONSTRUCTION	VS	4/20/05
B	ISSUED FOR BSR REVIEW		4/1/05
REV	REVISION	BY	DATE

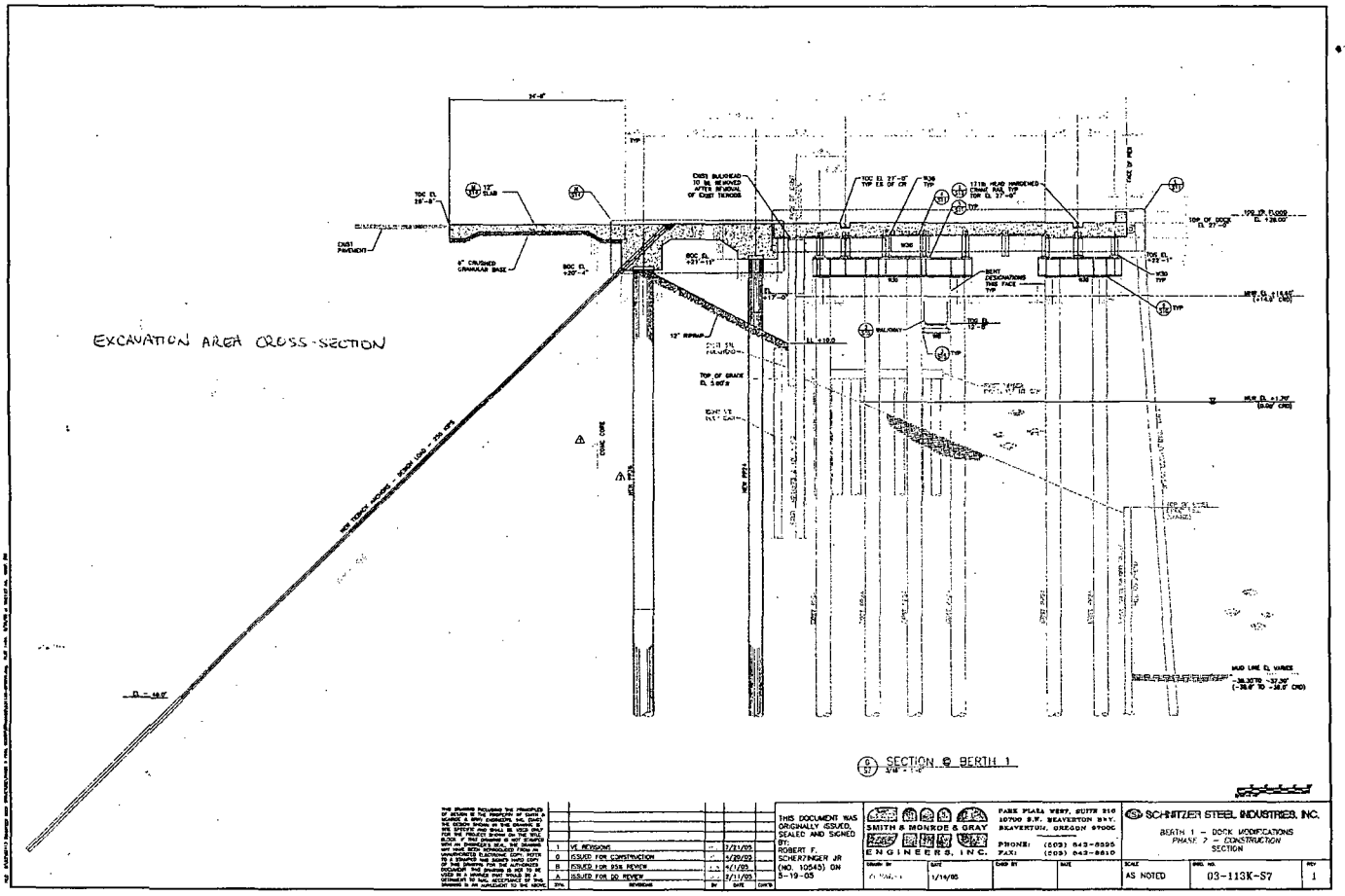
THIS DOCUMENT WAS ORIGINALLY ISSUED, SEALED AND SIGNED BY: ROBERT F. SCHERZINGER JR (NO. 10545) ON 5-19-05

SMITH & MONROE & GRAY ENGINEERS, INC.
PARK PLAZA WEST, SUITE 210
15700 S.W. BEAVERTON HWY.
BEAVERTON, OREGON 97006
PHONE: (503) 643-6595
FAX: (503) 643-6810

SCHNITZER STEEL INDUSTRIES, INC.
BERTH 1 - DOCK WOOF CATIONS
PHASE 2 - CONSTRUCTION
GENERAL ARRANGEMENT PLAN

DRAWN BY	DATE	CHKD BY	DATE	SCALE	DWG. NO.	REV.
D. WALK	12/9/04			1"=40'-0"	03-113K-CA1	0

SCHN00152058



1	VE REVISIONS		7/21/05
0	ISSUED FOR CONSTRUCTION		4/28/05
B	ISSUED FOR DSR REVIEW		4/1/05
A	ISSUED FOR DD REVIEW		3/11/05

REVISIONS

THIS DOCUMENT WAS ORIGINALLY ISSUED, SEALED AND SIGNED BY: ROBERT F. SCHERZINGER JR (NO. 10545) ON 5-19-05

SMITH & MONROE & GRAY ENGINEERS, INC.
PARK PLAZA WEST, SUITE 310
10700 S.W. BEAVERTON BLVD.
BEAVERTON, OREGON 97005
PHONE: (503) 643-5595
FAX: (503) 643-8810

SCHNITZER STEEL INDUSTRIES, INC.
BERTH 1 - DOCK MODIFICATIONS
PHASE 2 - CONSTRUCTION
SECTION

DRAWN BY	DATE	CHKD BY	DATE	SCALE	DWG. NO.	REV
[illegible]	1/14/05			AS NOTED	03-113K-S7	1

SCHN00152059

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

August 23, 2005

Mr. Jim Jakubiak
Schnitzer Steel Industries, Inc
P.O. Box 10047
Portland, OR 97296-0047

Re: Information request regarding the Schnitzer International Terminal: Notice of Future Dock Construction and Soil Sampling.

Dear Mr. Jakubiak:

Thanks you for submitting the notice of future dock construction and soil sampling to the Oregon Department of Environmental Quality (DEQ) in accordance with the Portland Harbor Voluntary Agreement (Agreement). The notice was received by DEQ on August 18, 2005.

As we discussed during our telephone conversation on Aug 18th, the Agreement between DEQ and Schnitzer Steel Industries requires five working days notice for excavation and sampling of soil. If sediments are to be removed or disturbed, 60 days notice is required. During the phone call DEQ, requested additional information on the start date, scope of work, sampling and materials handling plan and the location of this particular excavation. That request was followed up in writing in an email sent on August 19th. DEQ is again requesting this information.

DEQ understands that Schnitzer has determined the soil excavation will take place in an area of non-contaminated soil. DEQ is obligated to ensure that the agreement is being adhered to and that the effort is synchronized with the ongoing remedial investigation (RI) of the site. As the improvements to the dock continue, it is possible that contaminant impacted soil may be encountered. Any removal or excavation of contaminated soil could be considered a Source Control Measure as defined in the Agreement. A Source Control Measure would require detailed documentation to determine its effectiveness.

Since the potential for the dock improvement project to involve Source Control Measures exists, DEQ is also requesting information on the details and scope of the overall dock improvement project. Those details will also prove useful in ensuring the correct information is gathered to complete the RI. Please submit the requested information.

DEQ would like to meet with you to discuss this proposed work, its relationship to the Portland Harbor Agreement and the Remedial Investigation. The meeting could also serve as opportunity to discuss the overall status and direction of the RI. Please contact me at (503) 229-5563 or Romero.Mike@deq.state.or.us to schedule a meeting time.

Sincerely,

Michael Romero, Project Manager
Cleanup & Lower Willamette Section

cc: Rod Struck, DEQ
Jim Anderson, DEQ
Matt Cusma, Schnitzer
Tom Zelenka, Schnitzer
ECSI # 4319

SCHNITZER STEEL INDUSTRIES, INC.

12005 N Burgard Road, Portland, Oregon 97203
P.O. Box 10047, Portland, Oregon 97296-0047
(503) 224-9900 FAX (503) 286-6948

August 15, 2005

Alicia Voss
Voluntary Cleanup Program
Northwest Region
2020 SW Fourth Ave. Suite 400
Portland, OR 97204

SUBJECT: SCHNITZER INTERNATIONAL TERMINAL: NOTICE OF FUTURE DOCK CONSTRUCTION AND SOIL SAMPLING

Dear Ms. Voss:

Schnitzer Steel Inc. has retained Advanced American Diving of Portland, Oregon to construct a new dock structure at the International Terminal located in Portland. As part of this project, the contractor will excavate an estimated 5,000 cubic yards of upland soil near the dock and stockpile the soil on-site. Once stockpiled, the soil will be sampled and profiled and appropriate disposal options will be evaluated.

This excavation activity is scheduled to begin sometime during the week of August 22, 2005. Stockpile soil sampling will occur sometime in September 2005.

We would be happy to answer any questions you have related to this project. Please contact me at (503) 519-4795 or Mat Cusma at (503) 286-6944.

Sincerely yours,
Schnitzer Steel Industries, Inc.

Jim Jakubiak

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

August 23, 2005

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Schnitzer Steel Industries, Inc
P.O. Box 10047
Portland, OR 97296-0047

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Sincerely,

Michael Romero, Project Manager
Cleanup & Lower Willamette Section

cc: Rod Struck, DEQ
Jim Anderson, DEQ
Matt Cusma, Schnitzer
Tom Zelenka, Schnitzer
ECSI # 4319

SCHNITZER STEEL INDUSTRIES, INC.

12005 N Burgard Road, Portland, Oregon 97203
P.O. Box 10047, Portland, Oregon 97296-0047
(503) 224-9900 FAX (503) 286-6948

August 15, 2005

Alicia Voss
Voluntary Cleanup Program
Northwest Region
2020 SW Fourth Ave. Suite 400
Portland, OR 97204

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We would be happy to answer any questions you have related to this project. Please contact me at (503) 519-4795 or Mat Cusma at (503) 286-6944.

Sincerely yours,
Schnitzer Steel Industries, Inc.

Jim Jakubiak

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

July 9, 2004

Ms. Alicia Voss
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
April through June 2004
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period April through June 2004 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed April through June 2004

- Prepared quarterly status report and submitted to DEQ on April 9, 2004.
- Prepared groundwater monitoring summary report for recently completed 1-year groundwater monitoring program.

Activities Planned July through September 2004

- Submit groundwater monitoring summary report for recently completed 1-year groundwater monitoring program.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated April through June 2004

Sampling, test results, and other data generated during the reporting period were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced April through June 2004

No problems other than those documented above were encountered during the reporting period.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way, Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
mieke@bridgeh2o.com

April 9, 2004

Ms. Alicia Voss
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
January through March 2004
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period January through March 2004 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed January through March 2004

- Prepared quarterly status report and submitted to DEQ on January 13, 2004.
- Submitted additional storm water monitoring summary charts and tables to DEQ on January 26, 2004 as requested during December 5, 2003 meeting.
- Submitted groundwater monitoring report for September/December 2003 groundwater sampling event on February 2, 2004.
- Measured depth to groundwater in all site monitoring wells on March 18, 2004.

Activities Planned April through June 2004

- Submit groundwater monitoring summary report for recently completed 1-year groundwater monitoring program.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated January through March 2004

Sampling, test results, and other data generated during January through March 2004 were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced January through March 2004

No problems other than those documented above were encountered during January through March 2004.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

January 26, 2004

Ms. Alicia Voss
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Storm Water Monitoring Data Charts
Burgard Industrial Park RI Project

On January 9, 2004, I emailed you several storm water monitoring data charts for the Burgard Industrial Park. You had requested these charts during a December 5, 2003 meeting. It is my understanding that you are having some difficulty printing out some of the charts I had emailed. To ensure that you have good clean copies of the charts, I have enclosed two complete sets of the storm water data charts.

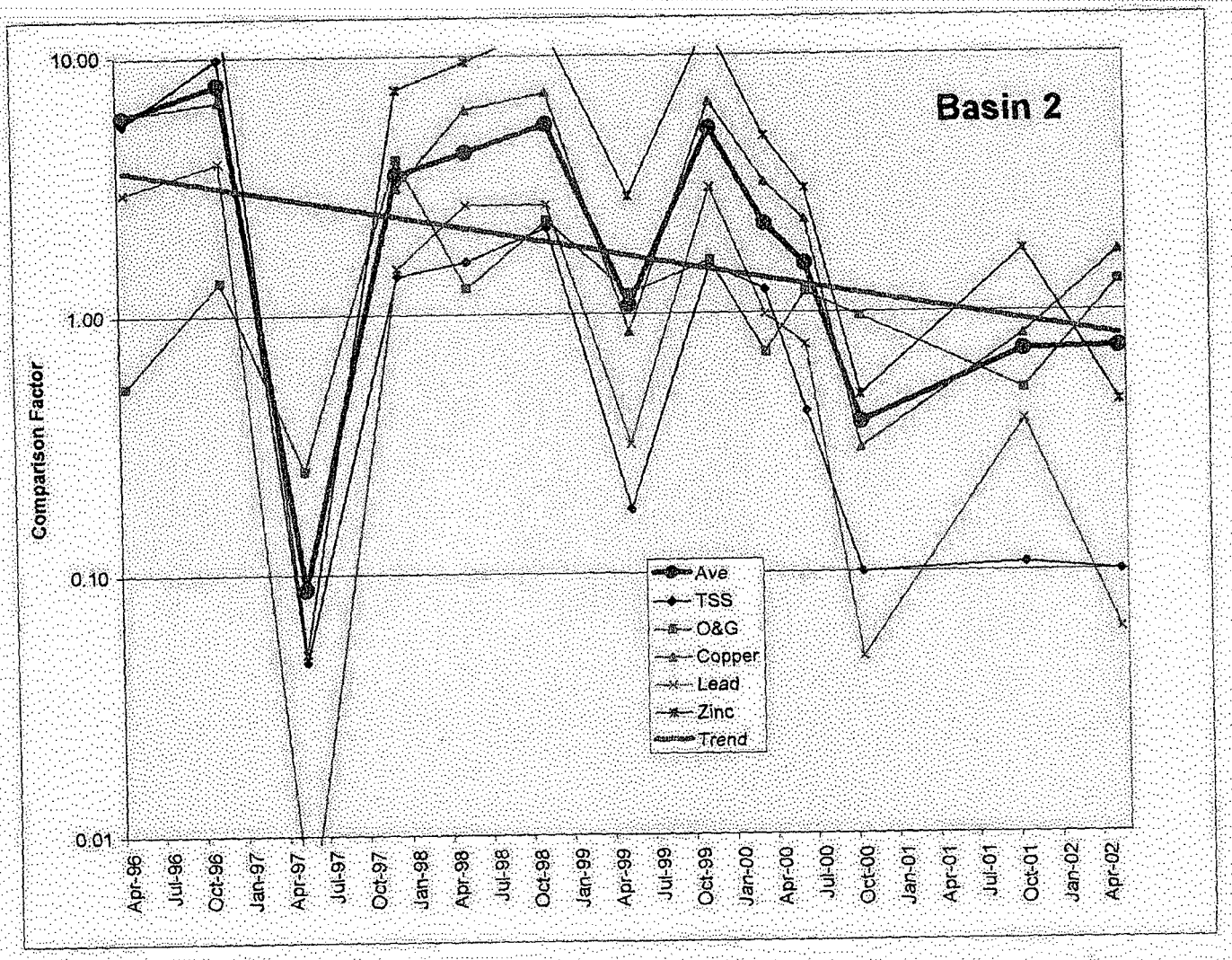
Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer w/enclosure



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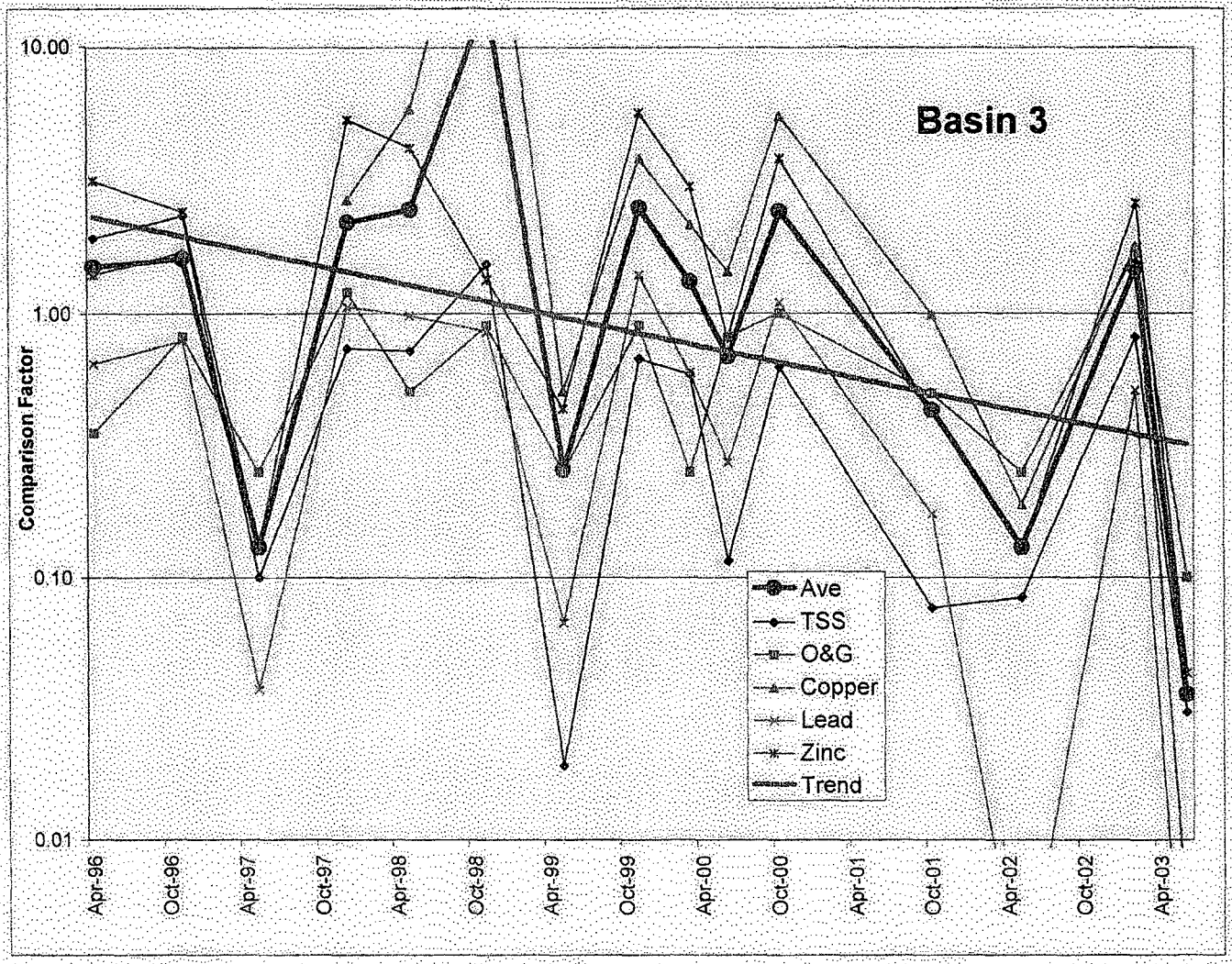

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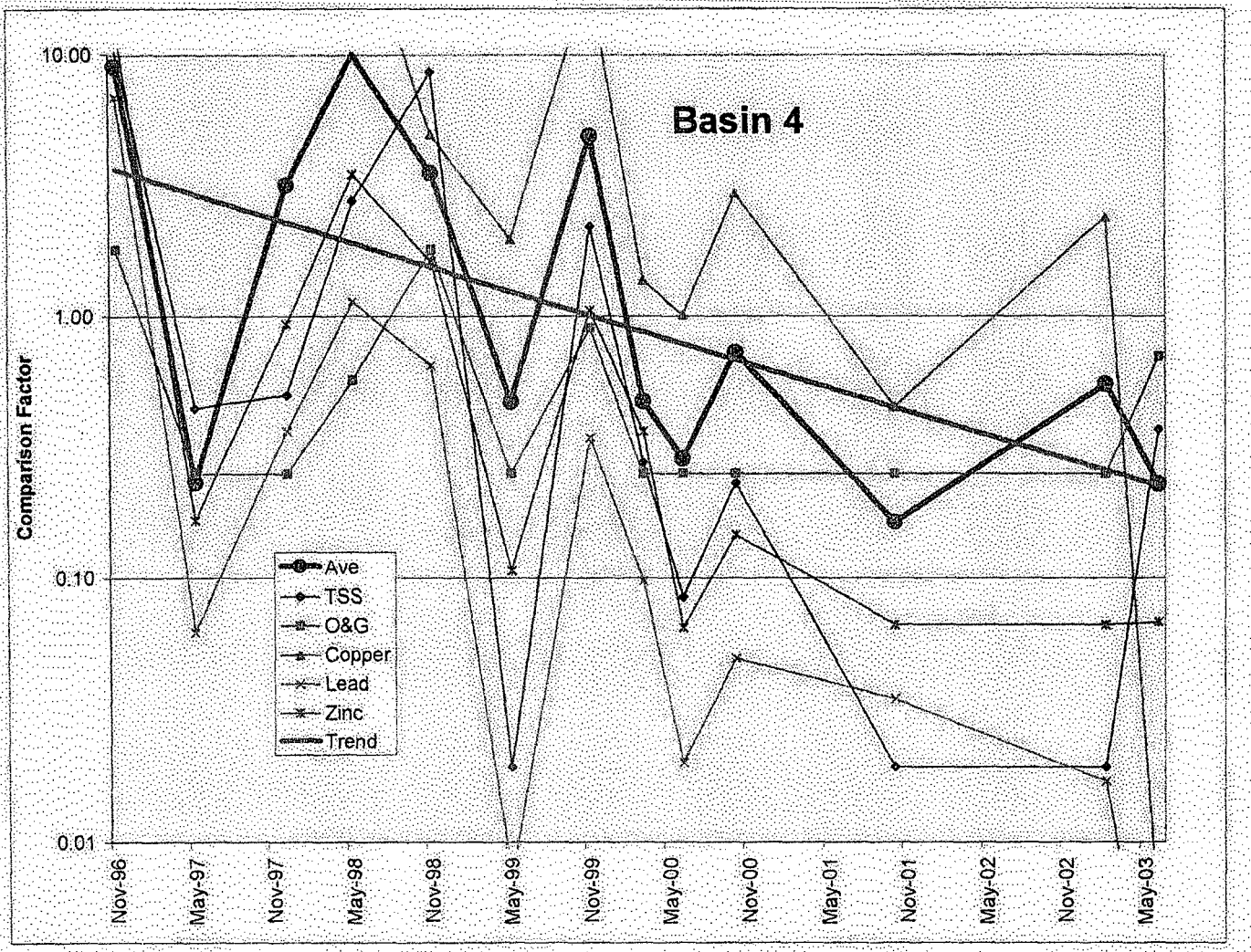

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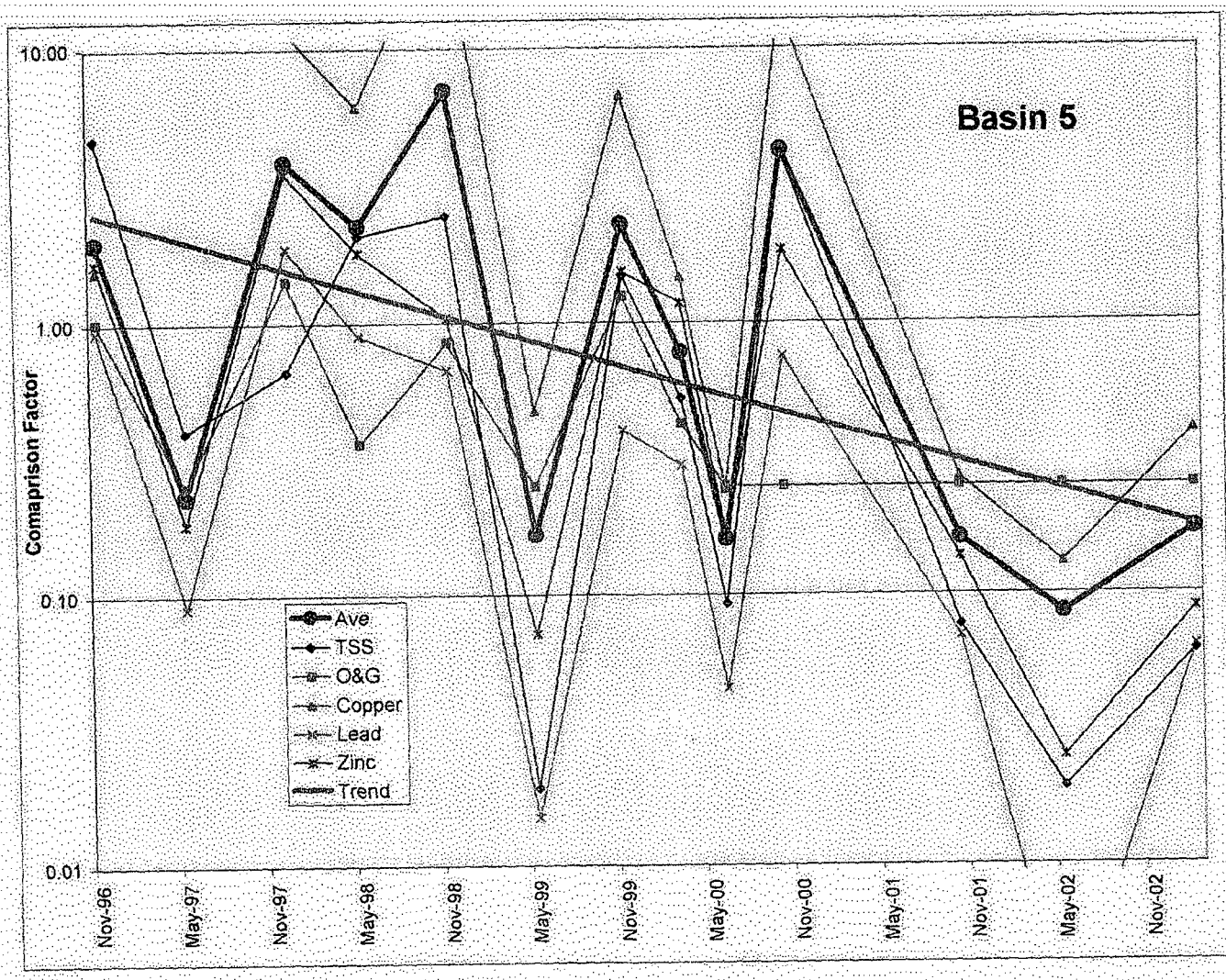

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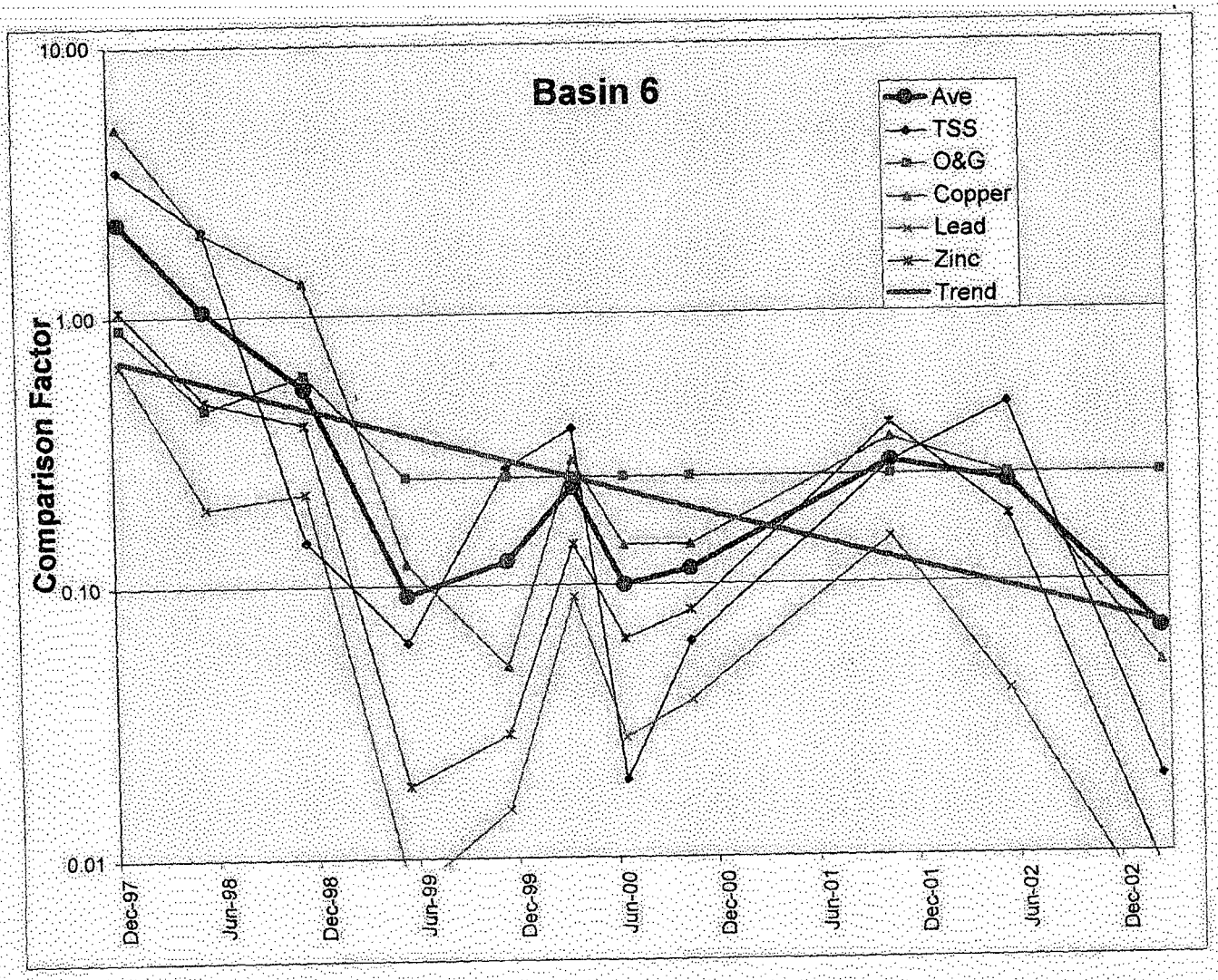

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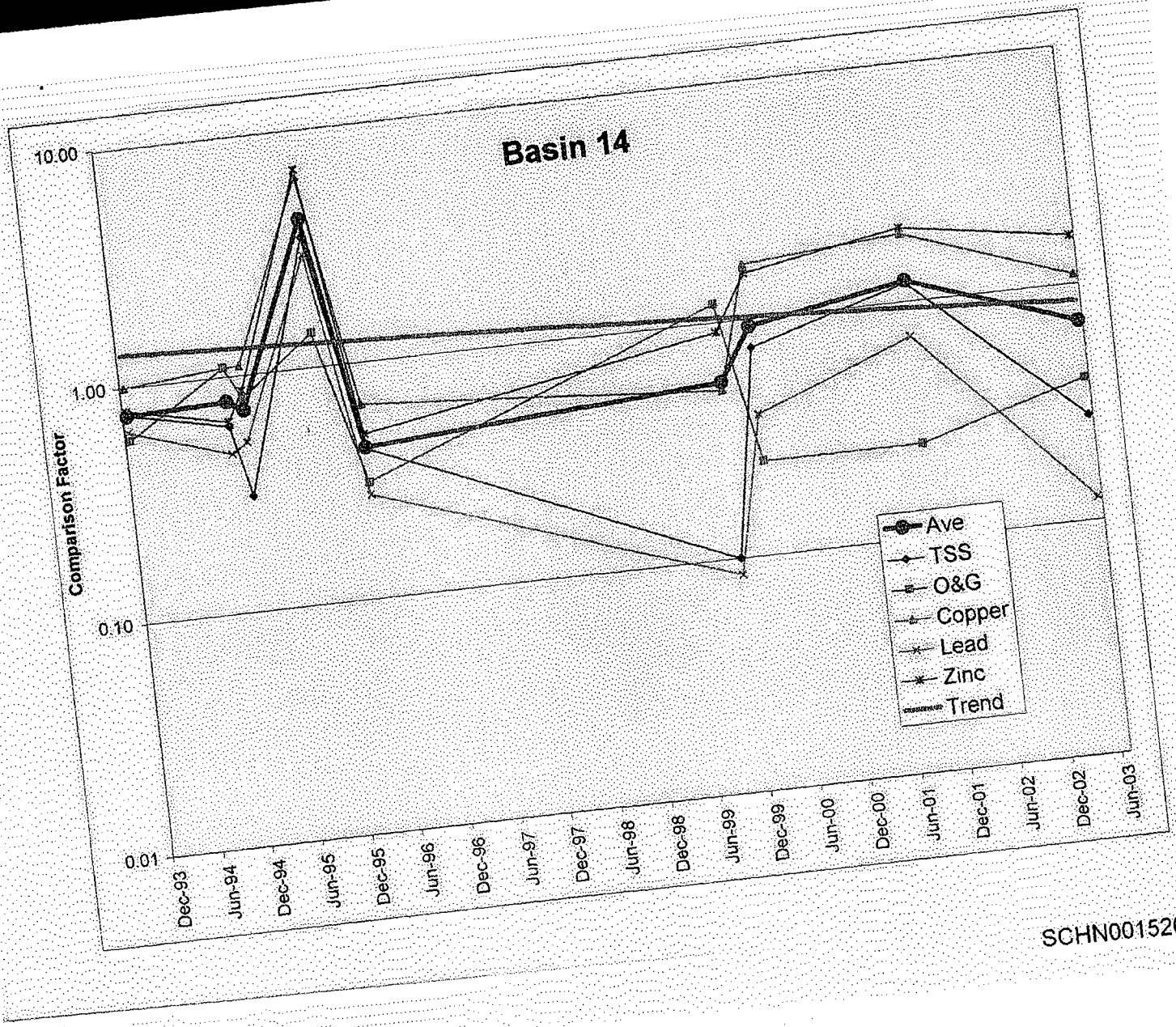
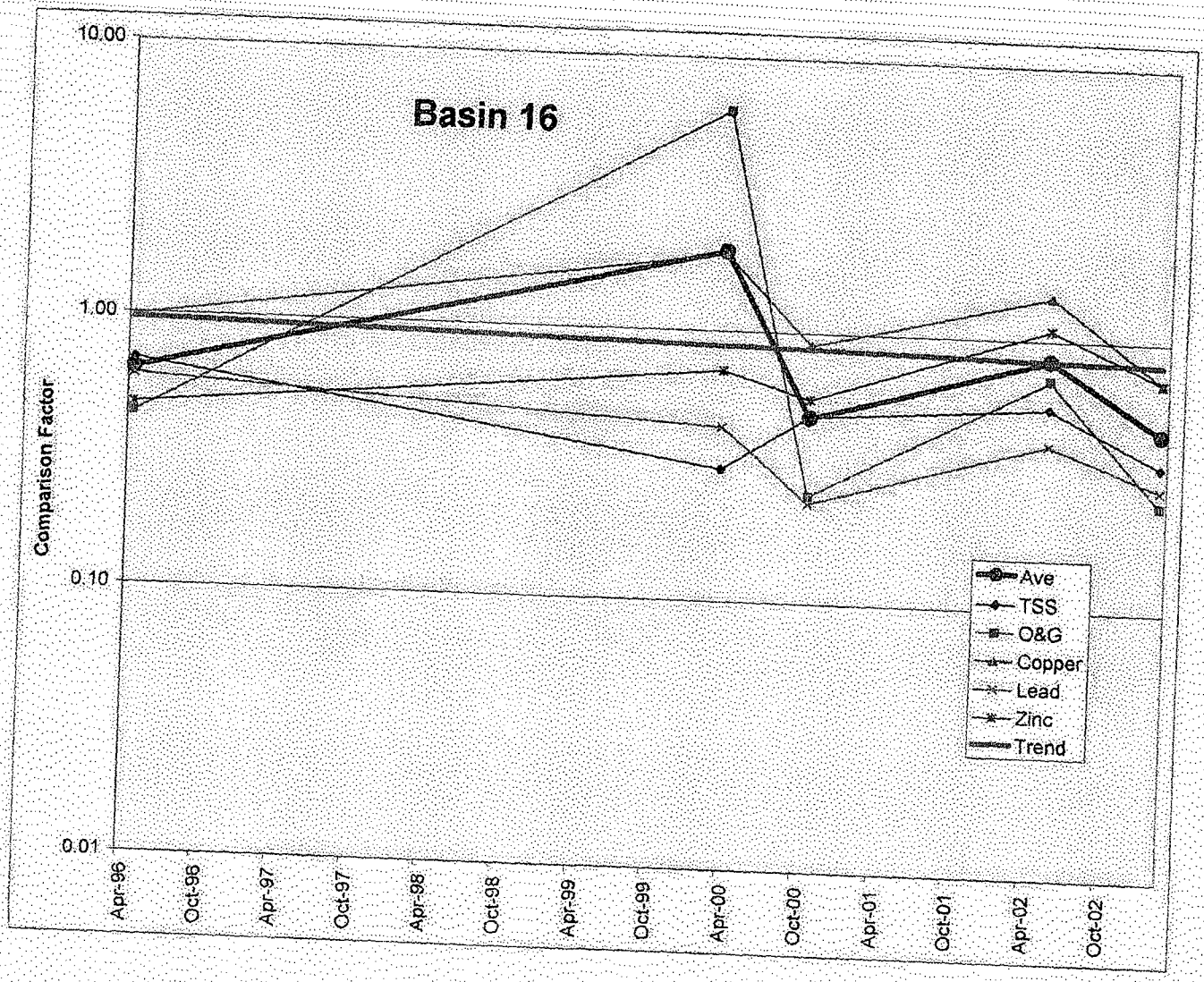


SCHN00152082

SCHN00152083



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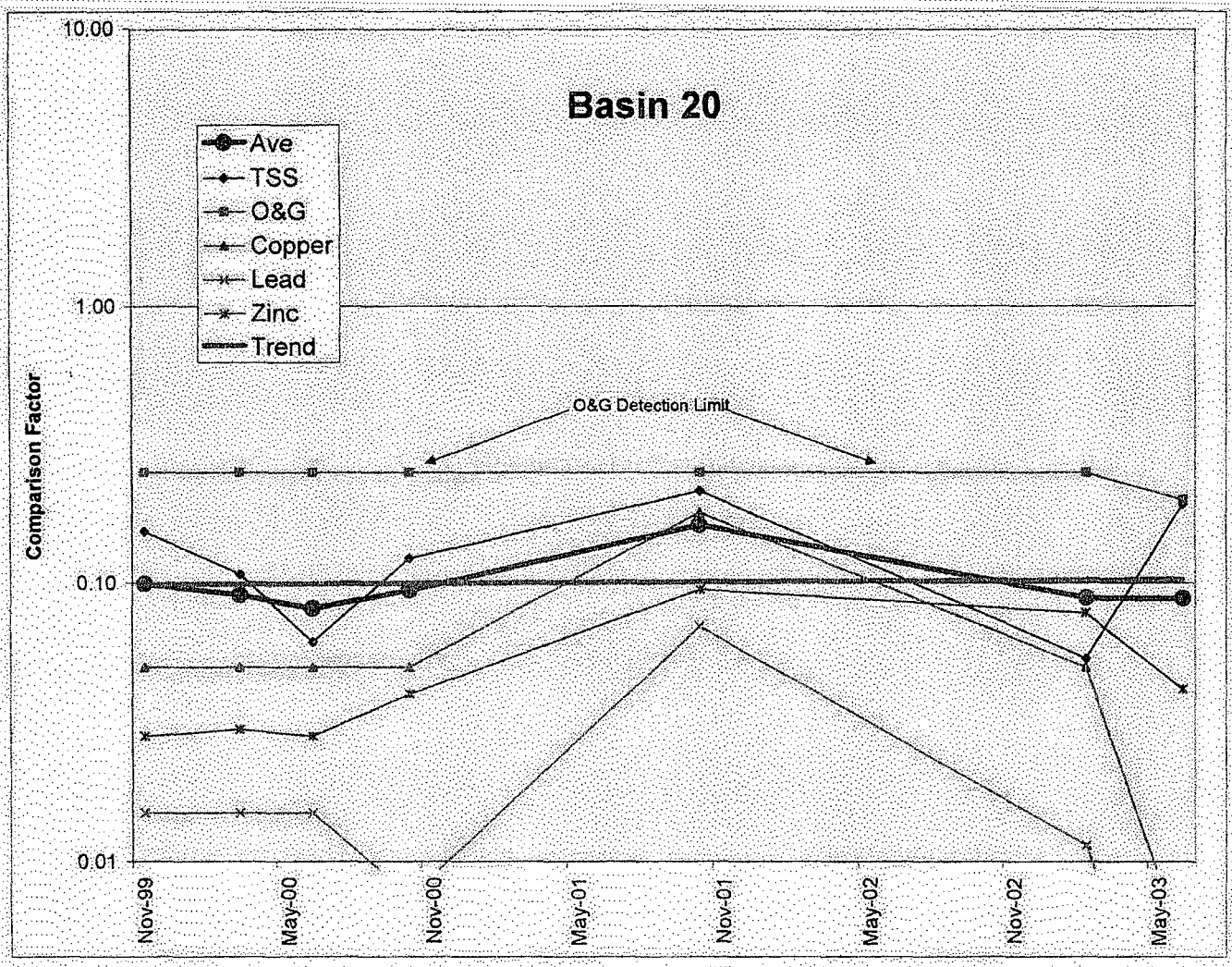
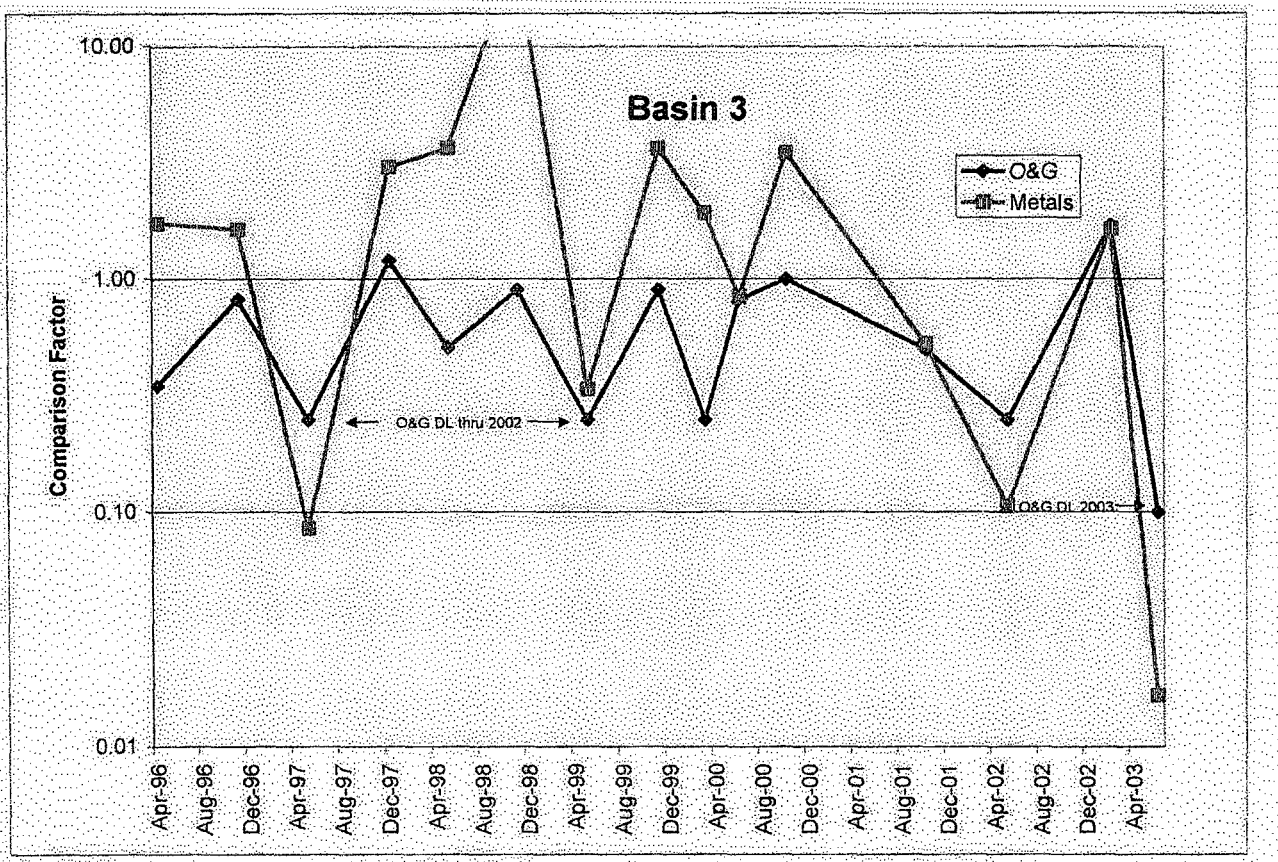


SCHN00152085

SCHN00152086



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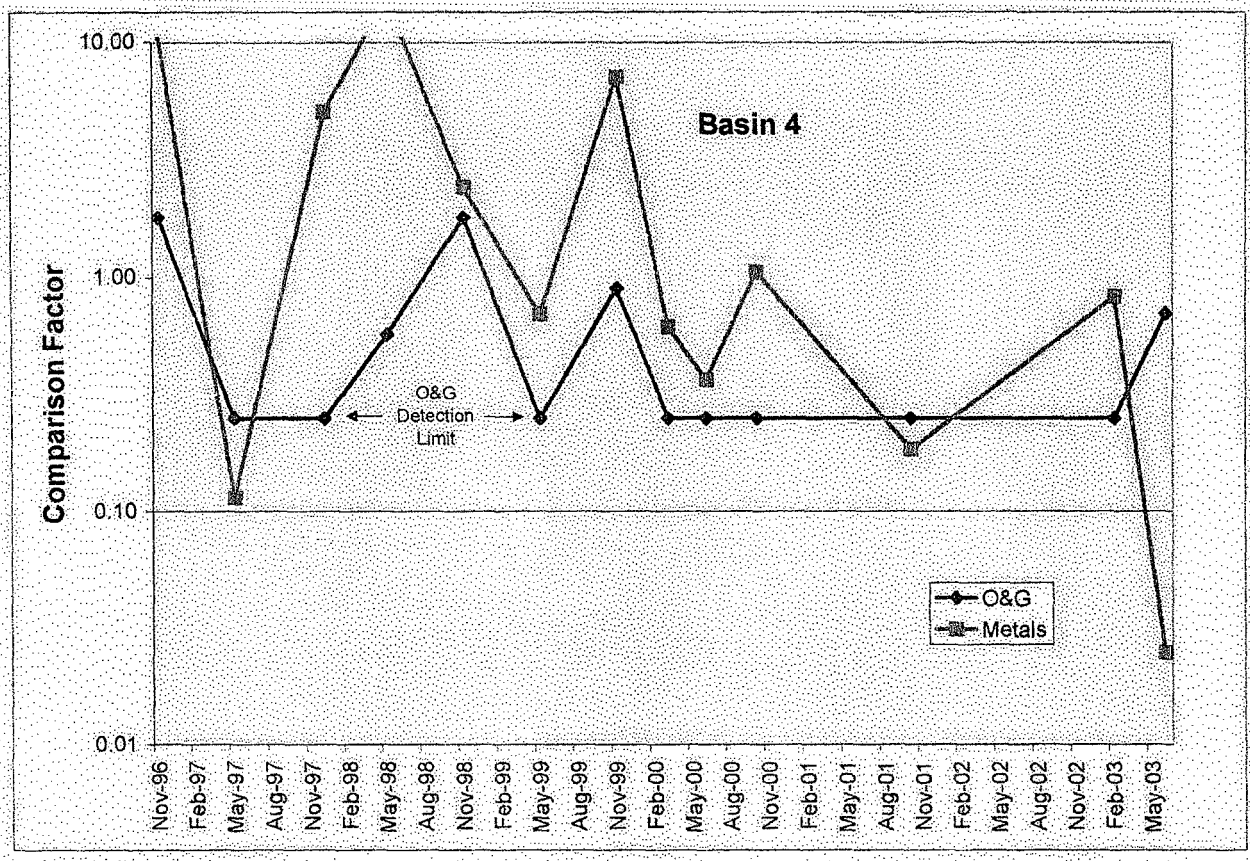

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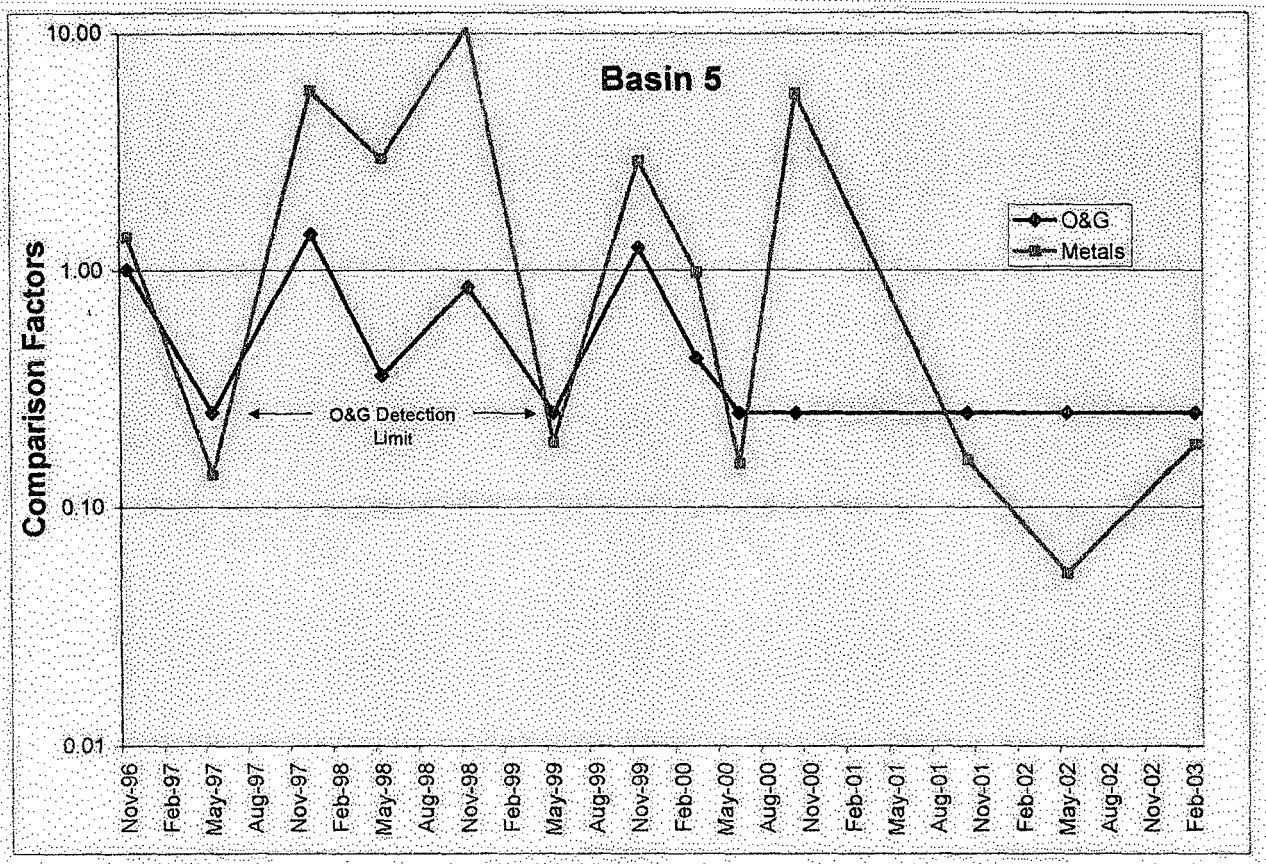

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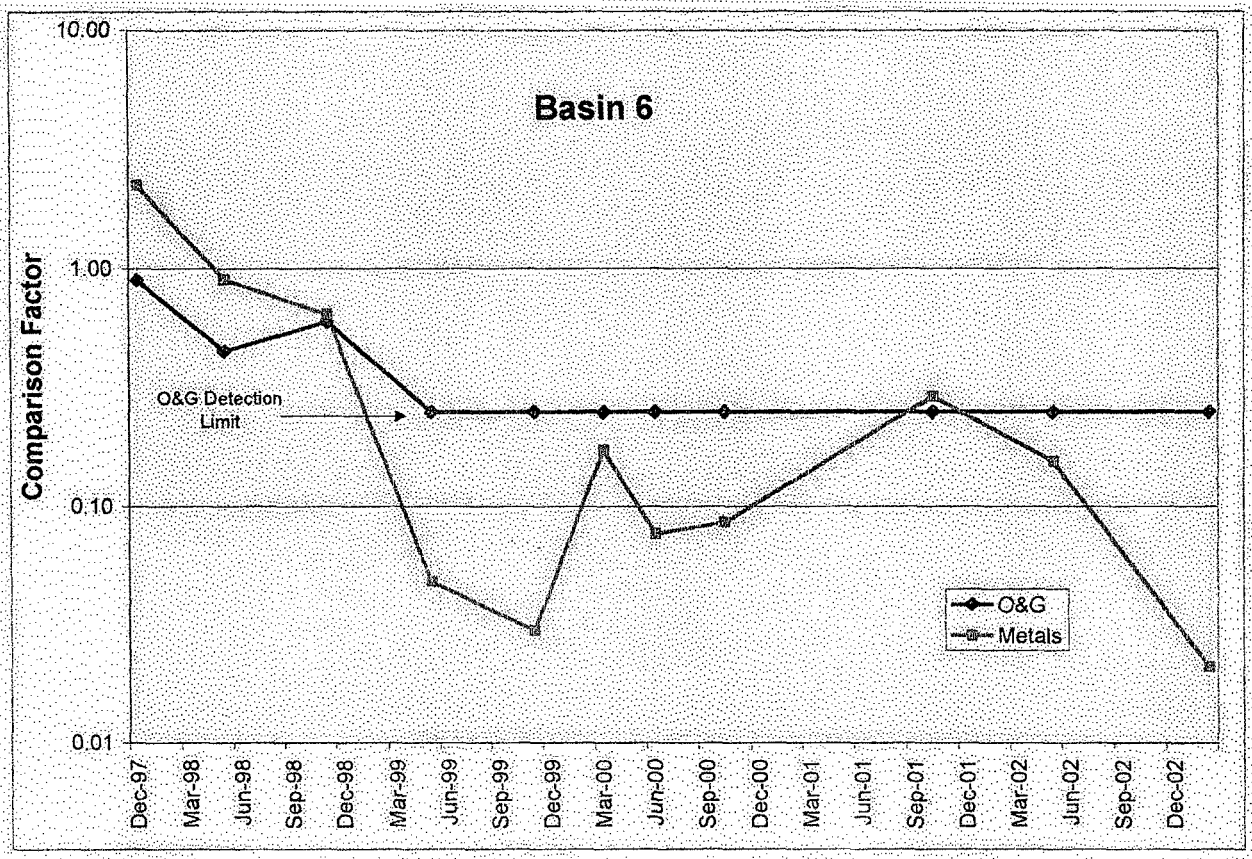
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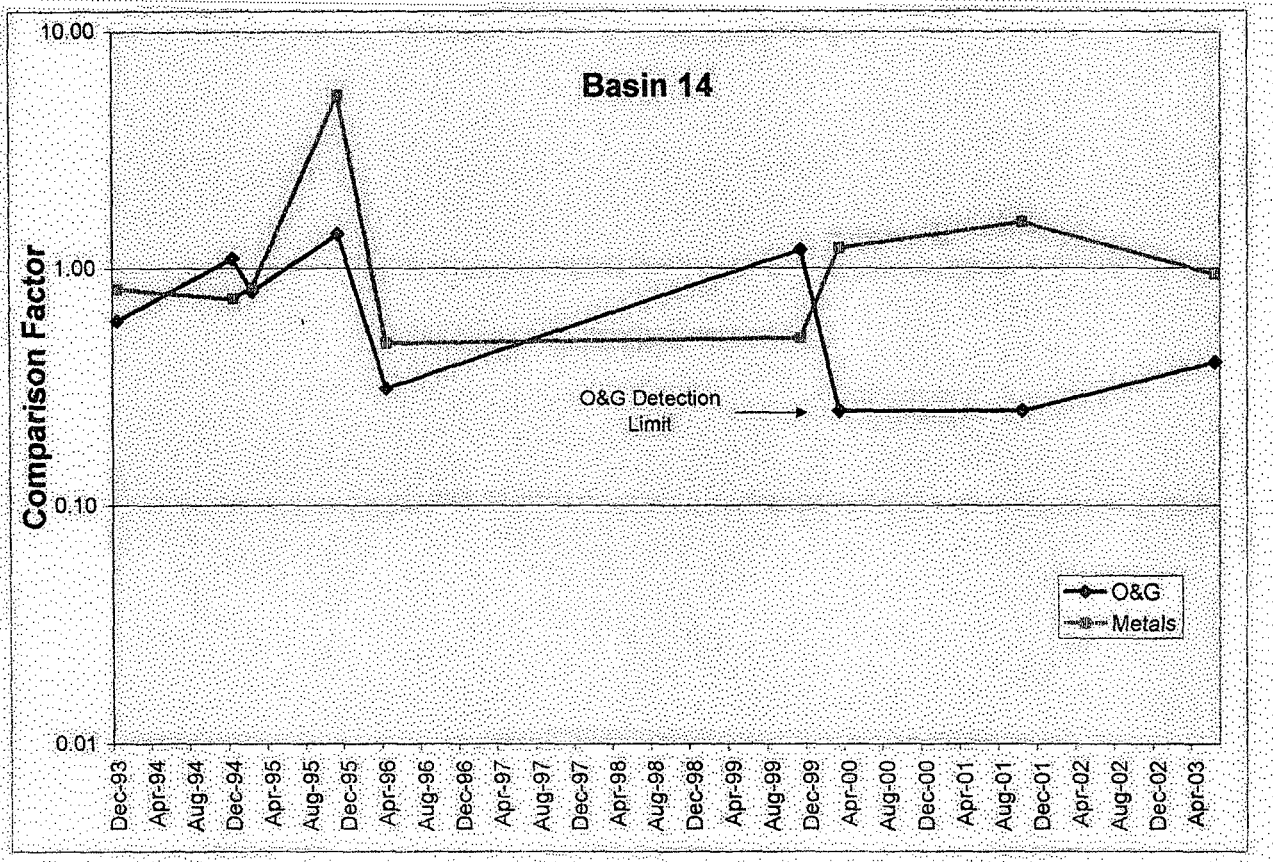

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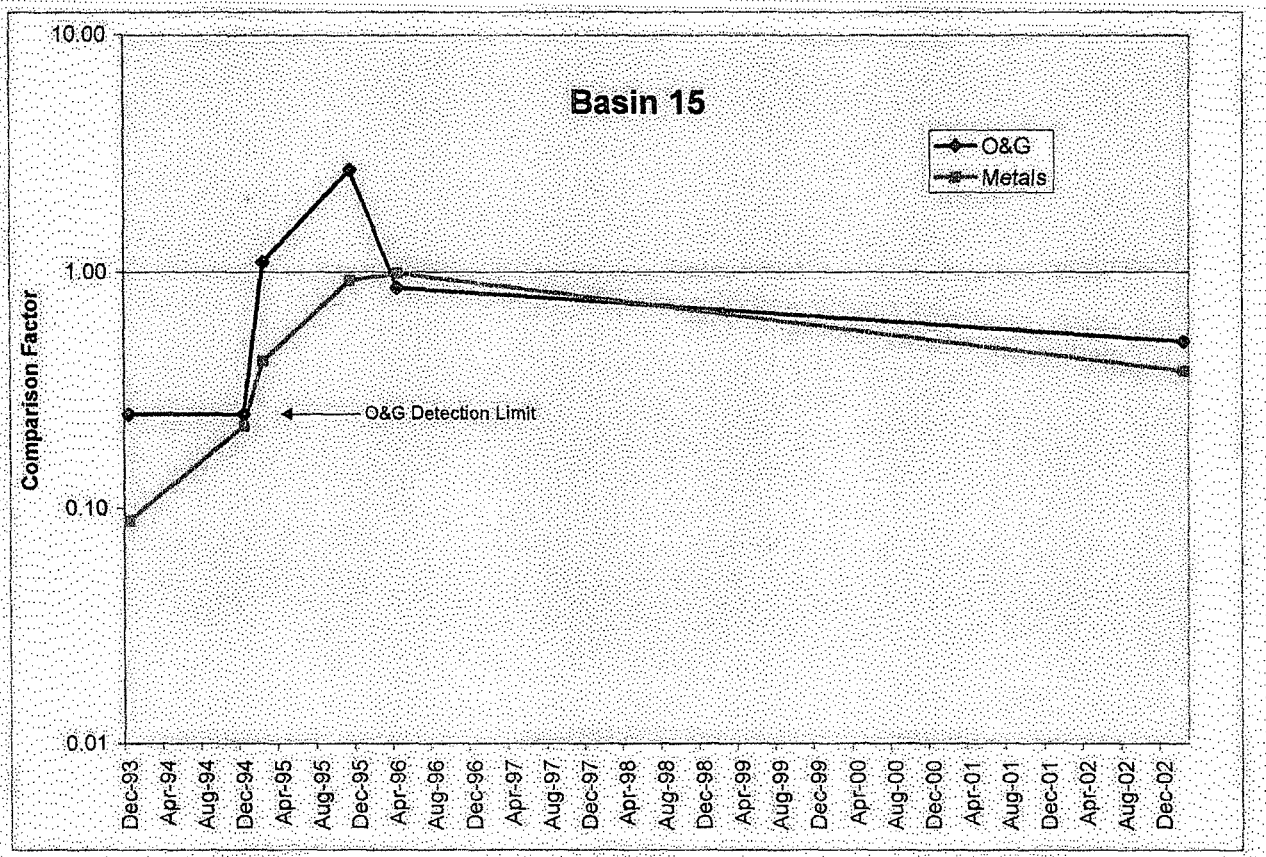

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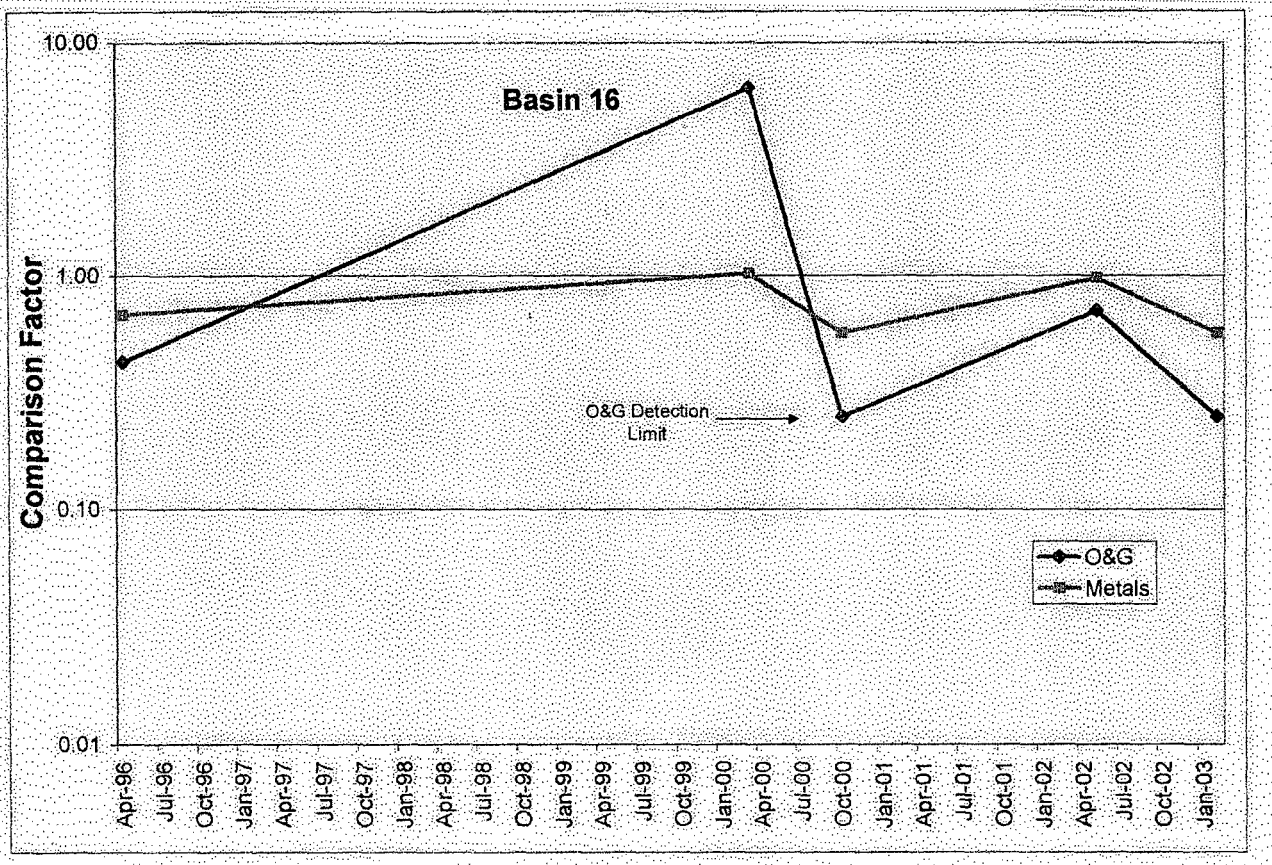

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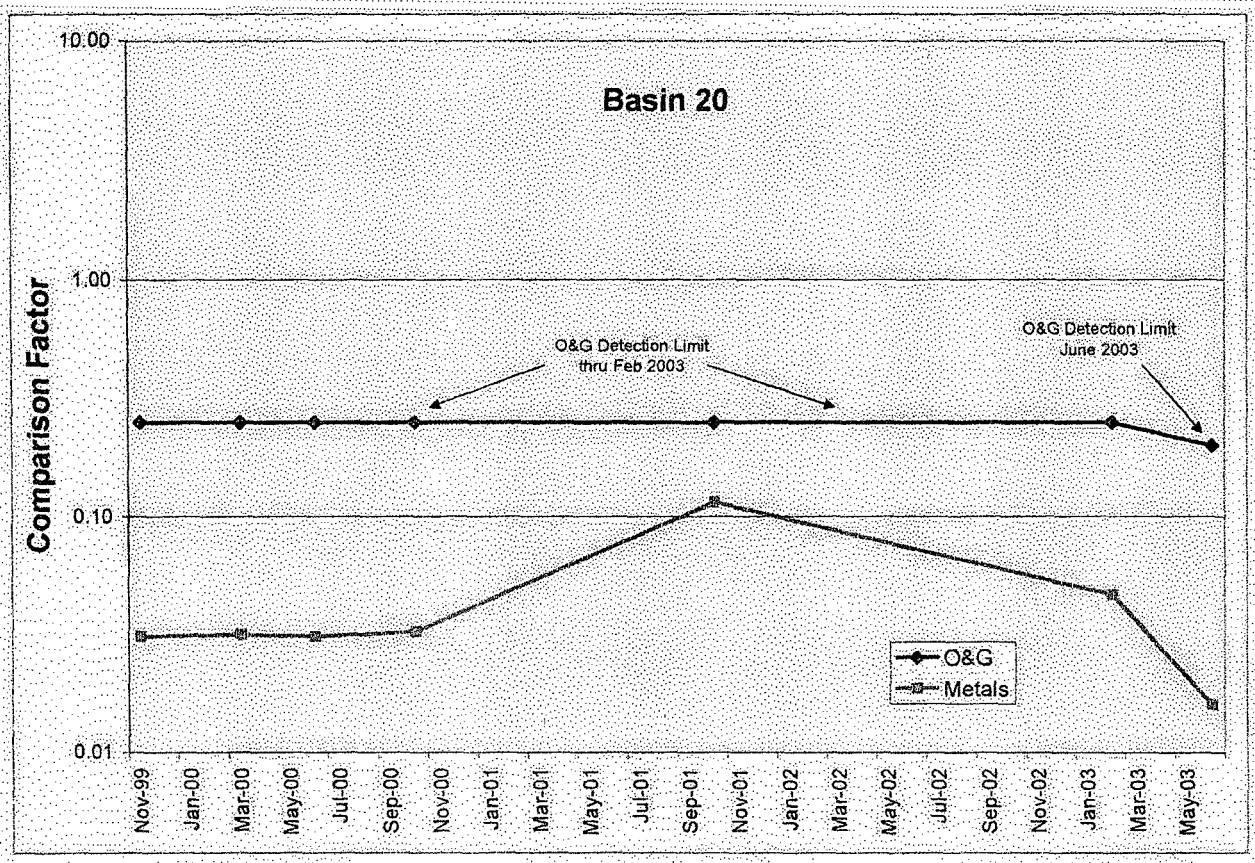

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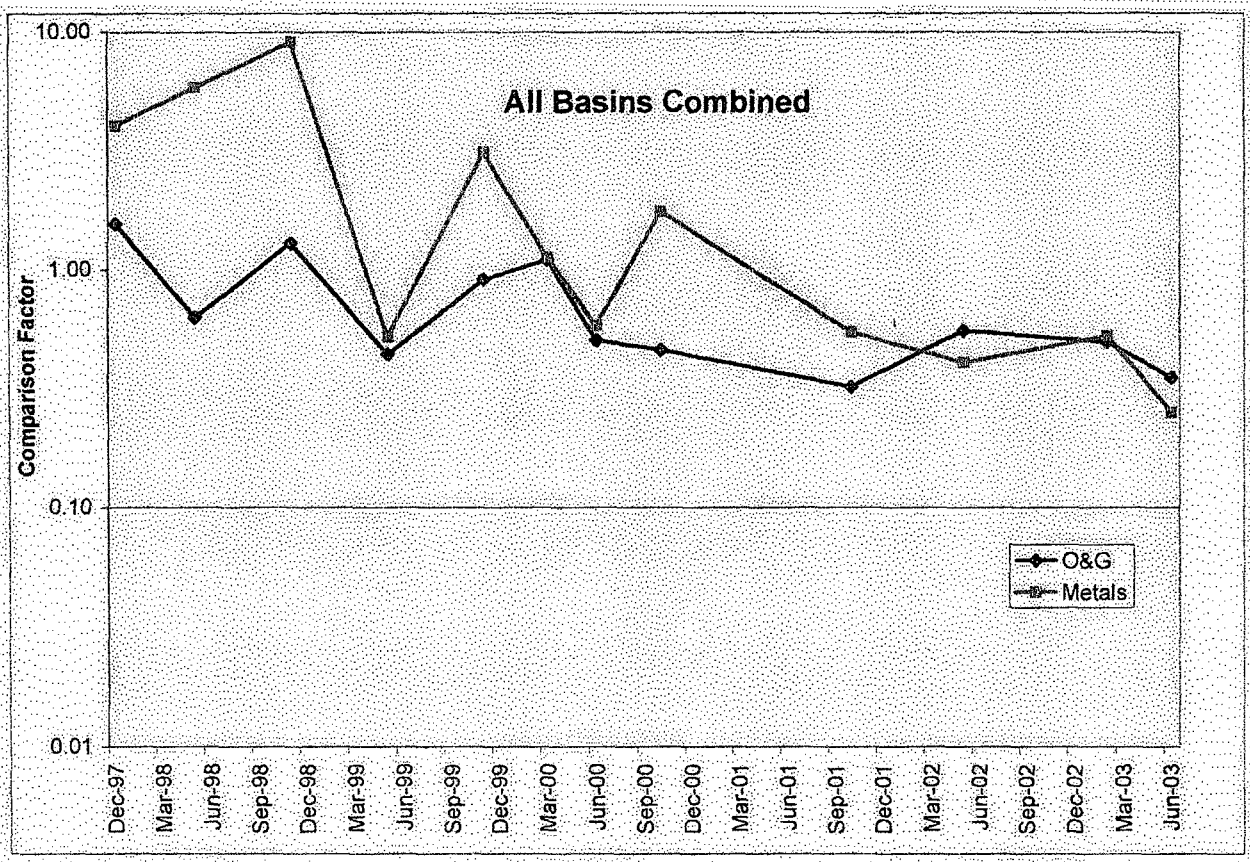


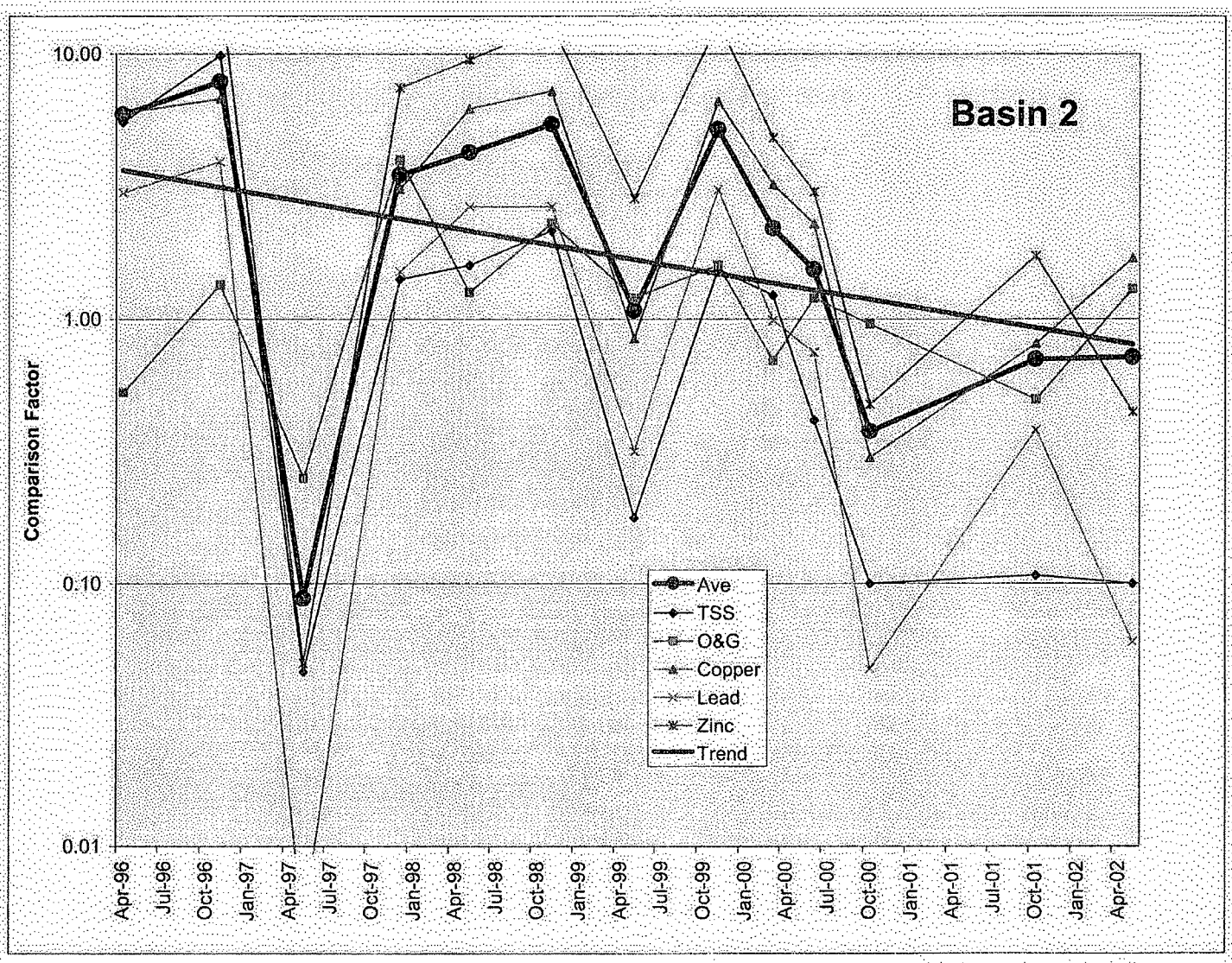
SCHN00152095

Outfall	New Drainage Basin	Date	pH	TSS	TPH	Copper	Lead	Zinc	Arsenic	Cadmium	Chromium	Mercury	Nickel
2	2	12/14/1993	8.3	32	4	0.06	0.11	0.7	0.005 U	0.004	0.01	0.0002 U	0.01 U
3	3	12/14/1993	8.03	160	5 U	0.025	0.42	2.3	0.005	0.01	0.053	0.0002 U	0.05
4	4	12/14/1993	6.85	170	6	0.01 U	0.06	0.16	0.007	0.002	0.014	0.0002 U	0.01 U
5	5	12/14/1993	7.77	110	13	0.08	0.14	0.49	0.005 U	0.004	0.025	0.0002 U	0.01 U
6	5	12/14/1993	7.72	130	11	0.06	0.06	0.11	0.005 U	0.001	0.01	0.0002 U	0.01 U
7	6	12/14/1993	8.24	25	5 U	0.01 U	0.01	0.01 U	0.005 U	0.002 U	0.006	0.0002 U	0.01 U
9	9	12/14/1993	8.64	330	5 U	0.15	0.68	0.81	0.005 U	0.03	0.048	0.0015	0.01 U
14	14	12/14/1993	7.99	100	6	0.1	0.26	0.48	0.005 U	0.002	0.04	0.0002 U	0.01 U
15	15	12/14/1993	7.93	10	5 U	0.01 U	0.02	0.1	0.005 U	0.001	0.012	0.0002 U	0.01 U
16	16	12/14/1993	7.6	56	13	0.07	0.08	0.21	0.005 U	0.004	0.019	0.0002 U	0.01 U
18	18	12/14/1993	8.24	25	8	0.16	0.31	0.52	0.005	0.003	0.059	0.0002 U	0.01 U
11?	?	12/14/1993	9.55	85	5 U	0.01 U	0.3	0.12	0.005 U	0.002 U	0.011	0.0002 U	0.01 U
12?	?	12/14/1993	7.7	70	5 U	0.2	0.39	0.67	0.005 U	0.003	0.054		0.01 U
17?	?	12/14/1993	9.04	38	5 U	0.01 U	0.09	0.28	0.005 U	0.001	0.026	0.0002 U	0.01 U
2	2	12/14/1994	8.43	530	20	0.34	0.74	5.9	0.01 U	0.026	0.082	0.002	0.08
3	3	12/14/1994	7.52	8	6	0.04	0.025	0.16	0.01 U	0.002 U	0.004	0.0002 U	0.1 U
4	4	12/14/1994	7.74	30	5 U	0.13	0.033	0.13	0.01 U	0.002 U	0.08	0.0002 U	0.01 U
5	5	12/14/1994	7.46	280	8	0.12	0.3	0.74	0.01 U	0.006	0.048	0.0002 U	0.05
6	5	12/14/1994	8.88	54	8	0.03	0.031	0.06	0.01 U	0.002 U	0.013	0.0002 U	0.1 U
7	6	12/14/1994	9.71	32	5 U	0.04	0.017	0.05	0.01 U	0.002 U	0.01	0.0002 U	0.1 U
10	10	12/14/1994	7.75	10	5 U	0.01 U	0.005	0.05	0.01 U	0.002 U	0.01 U	0.0002 U	0.1 U
14	14	12/14/1994	7.76	81	11	0.11	0.19	0.39	0.01 U	0.002	0.036	0.0006	0.01
15	15	12/14/1994	7.79	13	5 U	0.04	0.007	0.15	0.01 U	0.002 U	0.006	0.0002 U	0.06
16	16	12/14/1994	7.3	12	2	0.03	0.022	0.15	0.01 U	0.002 U	0.006	0.0002 U	0.1
18	18	12/14/1994	7.28	180	9	0.66	0.55	1.2	0.013	0.011	0.05	0.004	0.08
11?	?	12/14/1994	7.66	76	5	0.05	0.056	0.13	0.01 U	0.002 U	0.014	0.0002 U	0.1 U
12?	?	12/14/1994	7.32	65	7	0.19	0.32	0.6	0.006	0.003	0.054	0.0016	0.02
17?	?	12/14/1994	8.52	180	6	0.28	0.55	0.77	0.006	0.006	0.095	0.0002 U	0.03
2	2	2/17/1995	7.32	32	5 U	0.05	0.08	0.64	0.01 U	0.004	0.009	0.0002 U	0.01 U
3	3	2/17/1995	8.15	340	19	0.55	1.1	6.7	0.013	0.031	0.15	0.0029	0.11
4	4	2/17/1995	7.84	250	12	0.08	0.18	0.43	0.01 U	0.002	0.043	0.0002 U	0.02
5	5	2/17/1995	9.8	28	5 U	0.01 U	0.005	0.03	0.01 U	0.002 U	0.01 U	0.0002 U	0.02 U
6	5	2/17/1995	7.61	140	16	0.16	0.33	1.2	0.01 U	0.004	0.056	0.0016	0.06
7	6	2/17/1995	8.77	80	7	0.02	0.064	0.09	0.01 U	0.002 U	0.01	0.0002 U	0.1 U
14	14	2/17/1995	9.08	40	8	0.11	0.21	0.52	0.01 U	0.002	0.039	0.001	0.02
15	15	2/17/1995	7.74	22	11	0.07	0.09	0.2	0.01 U	0.002 U	0.012	0.0002 U	0.02
16	16	2/17/1995	7.53	6	8	0.01 U	0.017	0.06	0.01 U	0.003	0.01 U	0.0002 U	0.03
18	18	2/17/1995	7.64	36	15	0.23	0.07	0.27	0.009	0.001	0.01	0.0013	0.04
11?	?	2/17/1995	8.86	180	5 U	0.04	0.08	0.14	0.01 U	0.002 U	0.01	0.0002 U	0.1 U
12?	?	2/17/1995	7.73	140	10	0.35	0.78	1.1	0.012	0.004	0.084	0.0025	0.05
17?	?	2/17/1995	7.62	8	5 U	0.01 U	0.002	0.09	0.01 U	0.002 U	0.017	0.0002 U	0.1 U
2	2	11/27/1995	7.6	420	11	0.42	0.78	5.3	0.01 U	0.007	0.18	0.0014	0.1 U
3	3	11/27/1995	7.5	27	3 U	0.06	0.05	0.24	0.01 U	0.002 U	0.01	0.0002 U	0.1 U

Outfall	New Drainage Basin	Date	pH	TSS	TPH	Copper	Lead	Zinc	Arsenic	Cadmium	Chromium	Mercury	Nickel
4	4	11/27/1995	7	64	3 U	0.02	0.05	0.18	0.01 U	0.002 U	0.02	0.0002 U	0.1 U
5	5	11/27/1995	8.5	280	6	0.12	0.22	0.54	0.01 U	0.002 U	0.05	0.0006	0.1 U
6	5	11/27/1995	7.3	24	3 U	0.01 U	0.02	0.05	0.01 U	0.002 U	0.01 U	0.0002 U	0.1 U
7	6	11/27/1995	9.1	250	4	0.02	0.05	0.15	0.01 U	0.002 U	0.03	0.0002 U	0.1 U
14	14	11/27/1995	8.8	460	14	0.64	1.2	4.1	0.02	0.01	0.45	0.0046	0.1 U
15	15	11/27/1995	7.9	56	27	0.15	0.33	0.26	0.01 U	0.003	0.03	0.0004	0.1 U
16	16	11/27/1995	7.4	17	3 U	0.03	0.05	0.15	0.01 U	0.002 U	0.01	0.0002 U	0.1 U
18	18	11/27/1995	7.6	41	4	0.07	0.11	0.3	0.01 U	0.002 U	0.03	0.0008	0.1 U
11?	?	11/27/1995	9.1	200	3	0.07	0.09	0.2	0.01 U	0.002 U	0.03	0.004	0.1 U
12?	?	11/27/1995	7.3	1900	6	3.1	3.3	10	0.07	0.029	1	0.012	0.35
17?	?	11/27/1995	8.9	130	3 U	0.09	0.09	0.26	0.01 U	0.002 U	0.06	0.0002 U	0.1 U
2	2	4/12/1996	7.9	720	5.3	0.6	1.2	8.7	0.013	0.024	0.14	0.0029	0.13
3	3	4/12/1996	8.4	250	3.5	0.14	0.26	1.9	0.002	0.005 U	0.026	0.0002 U	0.027
4	4	4/12/1996	8.1	1200	1.9	0.19	0.32	1.8	0.006	0.005 U	0.054	0.0007	0.044
5	5	4/12/1996	8.6	250	4.1	0.15	0.35	0.74	0.005	0.005 U	0.039	0.001	0.033
6	5	4/12/1996	8.5	540	1.9	0.08	0.11	0.29	0.005	0.005 U	0.023	0.0003	0.033
7	6	4/12/1996	9.2	130	3.5	0.073	0.14	0.3	0.006	0.005 U	0.029	0.0003	0.03
14	14	4/12/1996	7.7	56	3.1	0.067	0.11	0.3	0.02 U	0.005 U	0.017	0.0002 U	0.02 U
15	15	4/12/1996	8.5	110	8.6	0.14	0.34	0.43	0.006	0.005 U	0.019	0.001	0.037
16	16	4/12/1996	8.1	89	4.3	0.098	0.24	0.28	0.002	0.005 U	0.01 U	0.0004	0.04
18	18	4/12/1996	8.1	71	3.2	0.17	0.23	0.44	0.007	0.005 U	0.042	0.0007	0.026
11?	?	4/12/1996	9.2	1200	5.4	0.27	0.54	1	0.021	0.005 U	0.14	0.001	0.098
12?	?	4/12/1996	7.8	61	3.3	0.46	1.2	2.2	0.011	0.006	0.1	0.003	0.074
17?	?	4/12/1996	8.9	95	2	0.085	0.16	0.27	0.003	0.005 U	0.034	0.0003	0.02 U
2	2	11/18/1996	8.17	1280	13.5	0.679	1.57	10.4	0.008	0.03	0.209	0.004	0.141
3	3	11/18/1996	7.91	304	8.2	0.17	0.318	1.45	0.005 U	0.004	0.058	0.0008	0.03
4	4	11/18/1996	8.39	1350	18	1.32	2.76	7.87	0.014	0.03	0.3	0.0118	0.227
5	5	11/18/1996	8.34	860	14.8	0.198	0.461	1.27	0.006	0.004 U	0.086	0.0013	0.062
6	5	11/18/1996	8.56	368	5.4	0.113	0.285	0.72	0.005 U	0.004 U	0.042	0.0011	0.03
2	2	5/28/1997	7.66	6	5 U		0.002	0.03	0.005 U	0.004 U	0.005 U	0.0005 U	0.02 U
3	3	5/28/1997	7.77	13	5 U		0.015	0.08	0.005 U	0.004 U	0.005 U	0.0005 U	0.02 U
4	4	5/28/1997	7.71	58	5 U		0.025	0.1	0.005 U	0.004 U	0.005 U	0.0005 U	0.02 U
6	5	5/28/1997	9.33	52	5 U		0.036	0.11	0.006	0.004 U	0.022	0.0005 U	0.02 U
2	2	12/9/1997	7.82	184	40	0.31	0.606	4.47	0.005 U	0.016	0.041	0.0022	0.048
3	3	12/9/1997	7.63	96	12	0.267	0.424	3.21	0.005 U	0.011	0.023	0.0012	0.034
4	4	12/9/1997	9.41	65	5 U	1.39	0.146	0.56	0.005 U	0.004 U	0.024	0.0005 U	0.02 U
5	5	12/9/1997	8.49	73	26	1.81	1.39	3.93	0.005 U	0.018	0.188	0.0048	0.113
6	5	12/9/1997	9.98	101	5 U	0.565	0.115	0.28	0.005 U	0.004 U	0.021	0.0005 U	0.02 U
7	6	12/9/1997	8.87	452	9	0.505	0.263	0.63	0.005 U	0.004 U	0.031	0.0008	0.02 U
2	2	5/20/1998	7.64	208	12.6	0.624	1.06	5.72					
3	3	5/20/1998	7.96	94	5.1	0.586	0.394	2.51					
4	4	5/20/1998	7.74	360	5.7	4.23	0.456	2.1					
5	5	5/20/1998	7.6	130	3.3	0.431	0.562	1.61					

Outfall	New Drainage Basin	Date	pH	TSS	TPH	Copper	Lead	Zinc	Arsenic	Cadmium	Chromium	Mercury	Nickel
6	5	5/20/1998	7.98	412	3.9	0.801	0.16	0.56					
7	6	5/20/1998	8.16	270	4.5	0.203	0.078	0.29					
2	2	11/23/1998	7.56	280	23	0.725	1.06	7.67					
3	3	11/23/1998	6.87	200	9	**7.08**	0.344	0.806					
4	4	11/23/1998	9.75	1120	18	0.499	0.26	0.973					
5	5	11/23/1998	8.36	220	9	4.76	0.284	0.49					
6	5	11/23/1998	8.97	420	8	1.27	0.256	0.757					
7	6	11/23/1998	8.15	19	6	0.132	0.088	0.237					
7D	6	11/23/1998	8.2	46	8	0.169	0.116	0.336					
2	2	5/3/1999	7.21	23	12	0.085	0.126	1.71					
3	3	5/3/1999	7.09	5 U	5 U	0.051	0.027	0.262					
4	4	5/3/1999	7.06	5 U	5 U	0.197	0.003	0.064					
5	5	5/3/1999	7.04	5 U	5 U	0.022	0.008	0.074					
6	5	5/3/1999	7.05	5 U	5 U	0.073	0.004	0.012					
7	6	5/3/1999	7.47	8	5 U	0.012	0.003	0.011					
4D	4	5/3/1999	7	6	5 U	0.199	0.004	0.063					
2	2	11/11/1999	7.61	200	16	0.663	1.23	7.87					
3	3	11/11/1999	7.42	88	9	0.383	0.56	3.42					
4	4	11/11/1999	8.46	287	9	2	0.138	0.634					
5	5	11/11/1999	7.2	113	11	0.232	0.24	1.57					
6	5	11/11/1999	9.14	272	14	1.12	0.083	0.274					
7	6	11/11/1999	9.45	35	5 U	0.01 U	0.006	0.017					
14	14	11/11/1999	8.25	13	12	0.052	0.034	0.547					
20	20	11/11/1999	9.45	20	5 U	0.01 U	0.006	0.017					
2	2	3/4/2000	7.79	160	7	0.323	0.396	2.91					
3	3	3/4/2000	7.58	77	5 U	0.216	0.24	1.8					
4	4	3/4/2000	10.35	36	5 U	0.138	0.039	0.218					
5	5	3/4/2000	7.91	112	6	0.214	0.228	1.38					
6	5	3/4/2000	9.8	26	5 U	0.079	0.012	0.031					
7	6	3/4/2000	8.52	49	5 U	0.029	0.036	0.085					
20	20	3/4/2000	9.4	14	5 U	0.01 U	0.006	0.018					
14	14	3/10/2000	7.28	99	5 U	0.17	0.158	0.937					
16	16	3/10/2000	7.09	40	64	0.191	0.177	0.429					
2	2	6/11/2000	7.64	54	12	0.229	0.301	1.82					
3	3	6/11/2000	7.65	15	8.2	0.144	0.109	0.485					
4	4	6/11/2000	7.75	11	5 U	0.101	0.008	0.039					
5	5	6/11/2000	7.6	11	5 U	0.031	0.032	0.197					
6	5	6/11/2000	7.98	13	5 U	0.018	0.003	0.01 U					
7	6	6/11/2000	8.16	5 U	5 U	0.014	0.011	0.038					
20	20	6/11/2000	8.45	8	5 U	0.01 U	0.006	0.017					
2	2	10/20/2000	7.31	13	9.6	0.03	0.019	0.287					
3	3	10/20/2000	8.2	82	10	0.554	0.441	2.3					
4	4	10/20/2000	7.11	30	5 U	0.296	0.02	0.088					

Outfall	New Drainage Basin	Date	pH	TSS	TPH	Copper	Lead	Zinc	Arsenic	Cadmium	Chromium	Mercury	Nickel
5	5	10/20/2000	8.39	206	5 U	0.24	0.375	1.51					
6	5	10/20/2000	8.3	880	5 U	2.6	0.23	0.688					
7	6	10/20/2000	7.75	8	5 U	0.014	0.015	0.048					
16	16	10/20/2000	7.18	64	5 U	0.09	0.094	0.342					
20	20	10/20/2000	6.95	16	5 U	0.01 U	0.003	0.024					
2	2	10/30/2001	7.04	14	5	0.081	0.153	1.04					
3	3	10/30/2001	7.19	10	5	0.099	0.07	0.252					
4	4	10/30/2001	7.94	5 U	5 U	0.045	0.014	0.04					
7	6	10/30/2001	8.1	36	5 U	0.034	0.059	0.231					
14	14	10/30/2001	7.67	156	5 U	0.193	0.286	1.23					
20	20	10/30/2001	8.23	28	5 U	0.018	0.028	0.057					
5A	5	10/30/2001	7.76	10	5 U	0.027	0.028	0.082					
2	2	5/22/2002	7.22	13	13	0.17	0.024	0.268					
3	3	5/22/2002	7.38	11	5 U	0.019	0.002 U	0.076					
7	6	5/22/2002	8.42	59	5 U	0.025	0.016	0.106					
16	16	5/22/2002	7.09	73	7.1	0.144	0.164	0.654					
5A	5	5/22/2002	7.91	5 U	5 U	0.013	0.002 U	0.015					
1	1	2/16/2003	7.23	14	6.9	0.071	0.096	0.46					
3	3	2/16/2003	7.42	106	17	0.18	0.206	1.56					
4	4	2/16/2003	8.23	5 U	5 U	0.24	0.0068	0.04					
6A	6	2/16/2003	7.34	5 U	5 U	0.01 U	0.004 U	0.01 U					
15	15	2/16/2003	7.68	34	5.1	0.06	0.067	0.225					
16	16	2/16/2003	8.2	45	5 U	0.071	0.114	0.427					
20	20	2/16/2003	8.44	7	5 U	0.01 U	0.0046	0.047					
5A	5	2/16/2003	8.44	8	5 U	0.04	0.0256	0.053					
3	3	6/20/2003	7.67	4	2 U	0.001 U	0.001 U	0.026					
4	4	6/20/2003	7.85	48	7	0.001 U	0.001 U	0.041					
14	14	6/20/2003	7.66	36	4	0.11	0.05	0.96					
20	20	6/20/2003	8.01	25	2	0.001 U	0.001 U	0.025					



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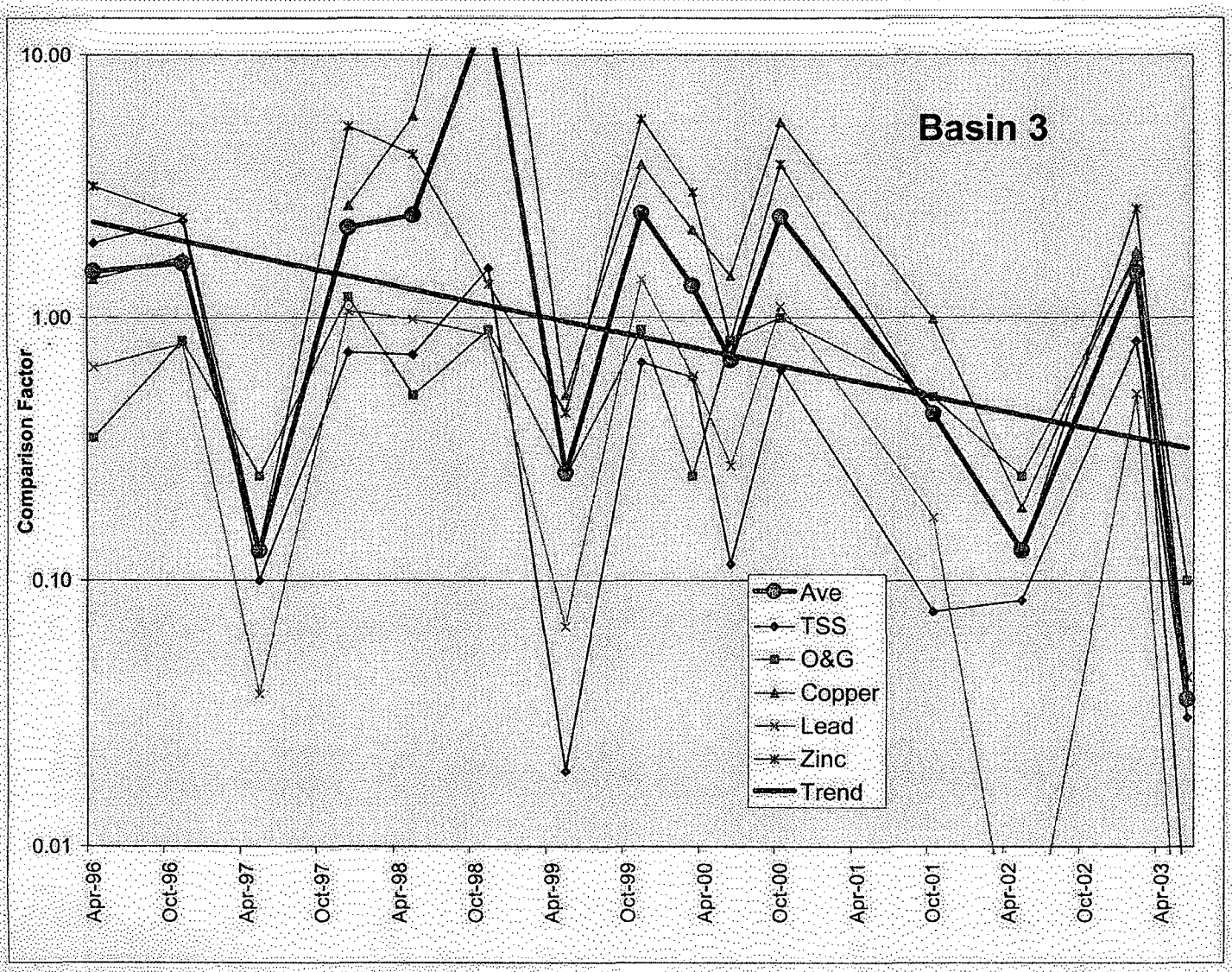

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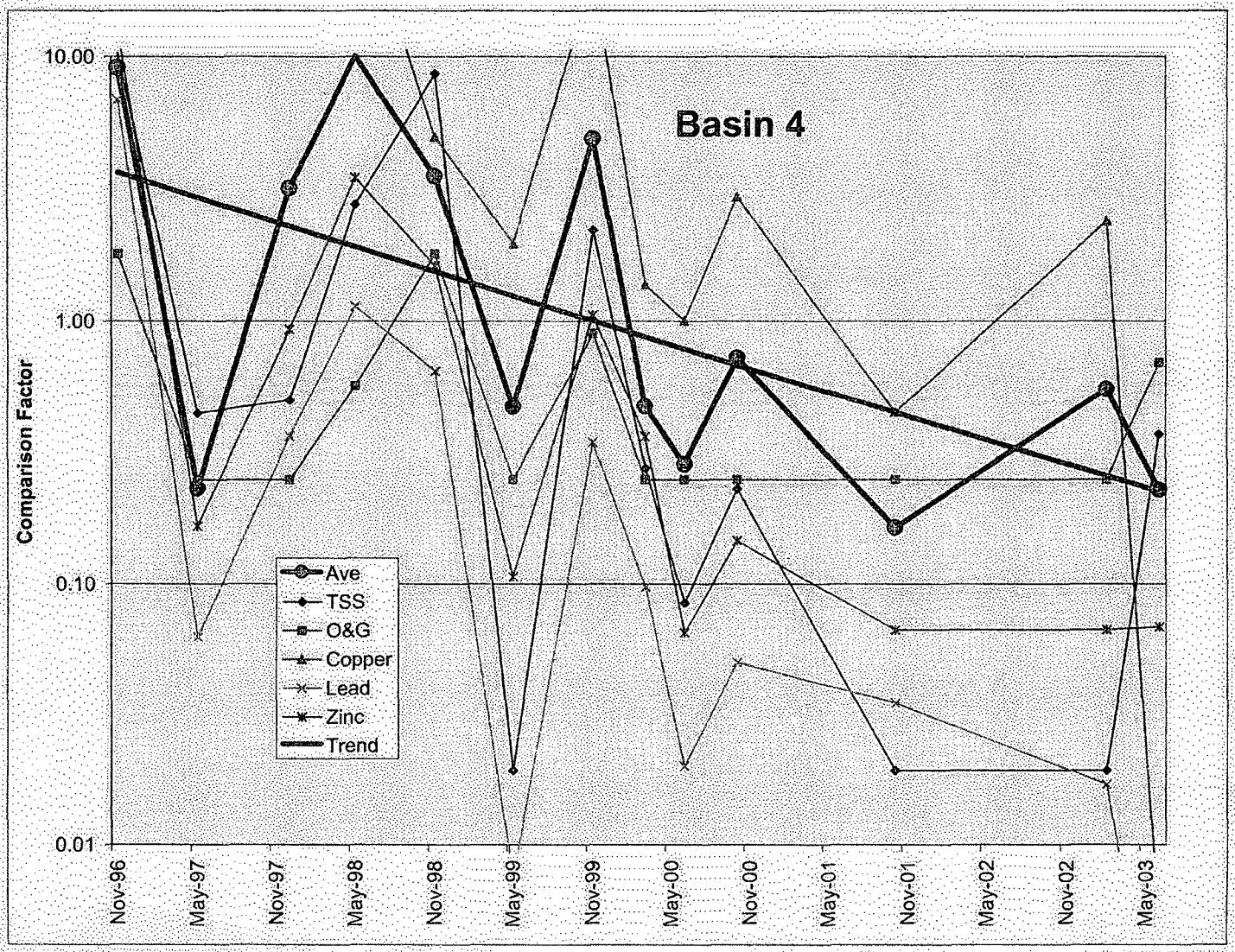

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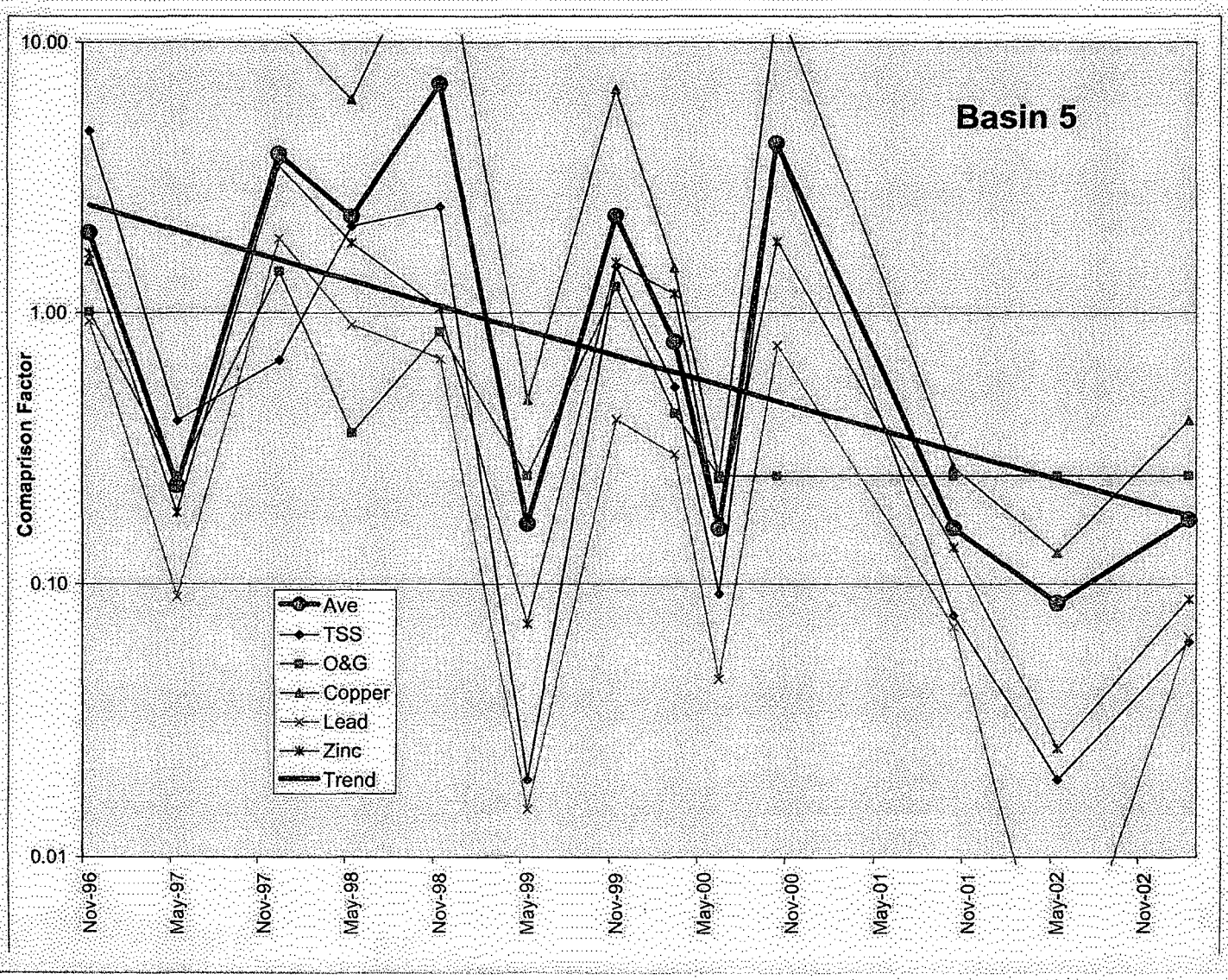

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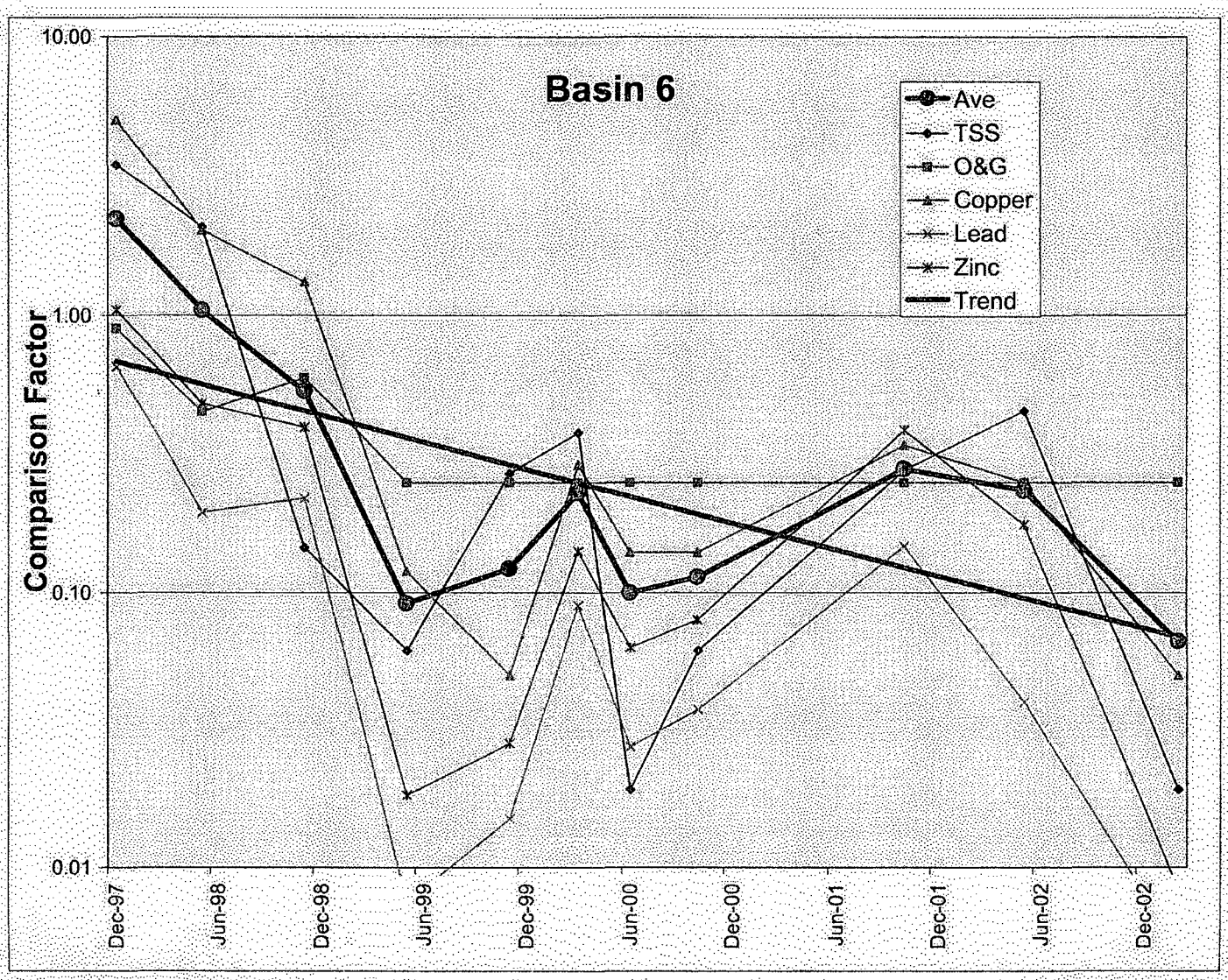

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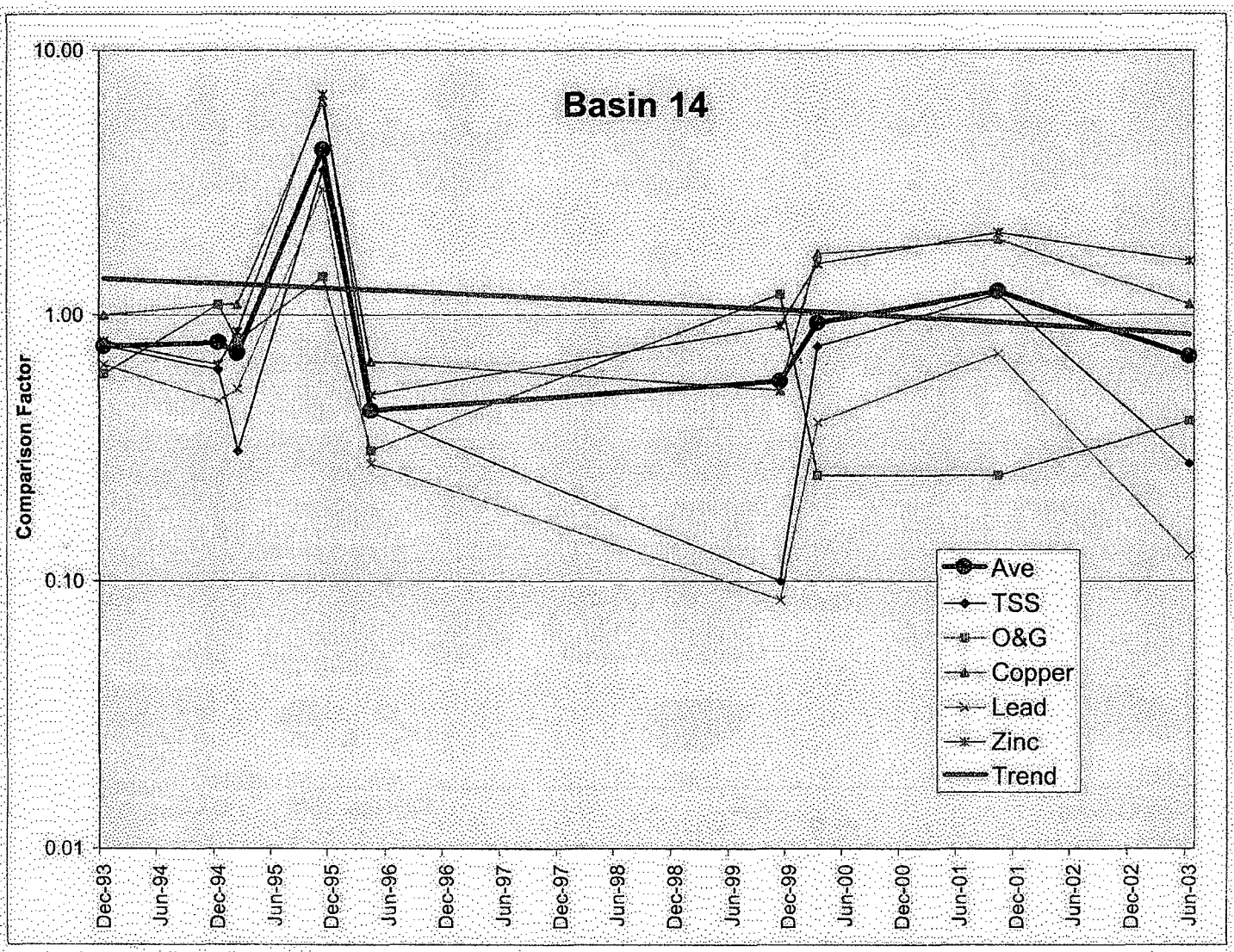

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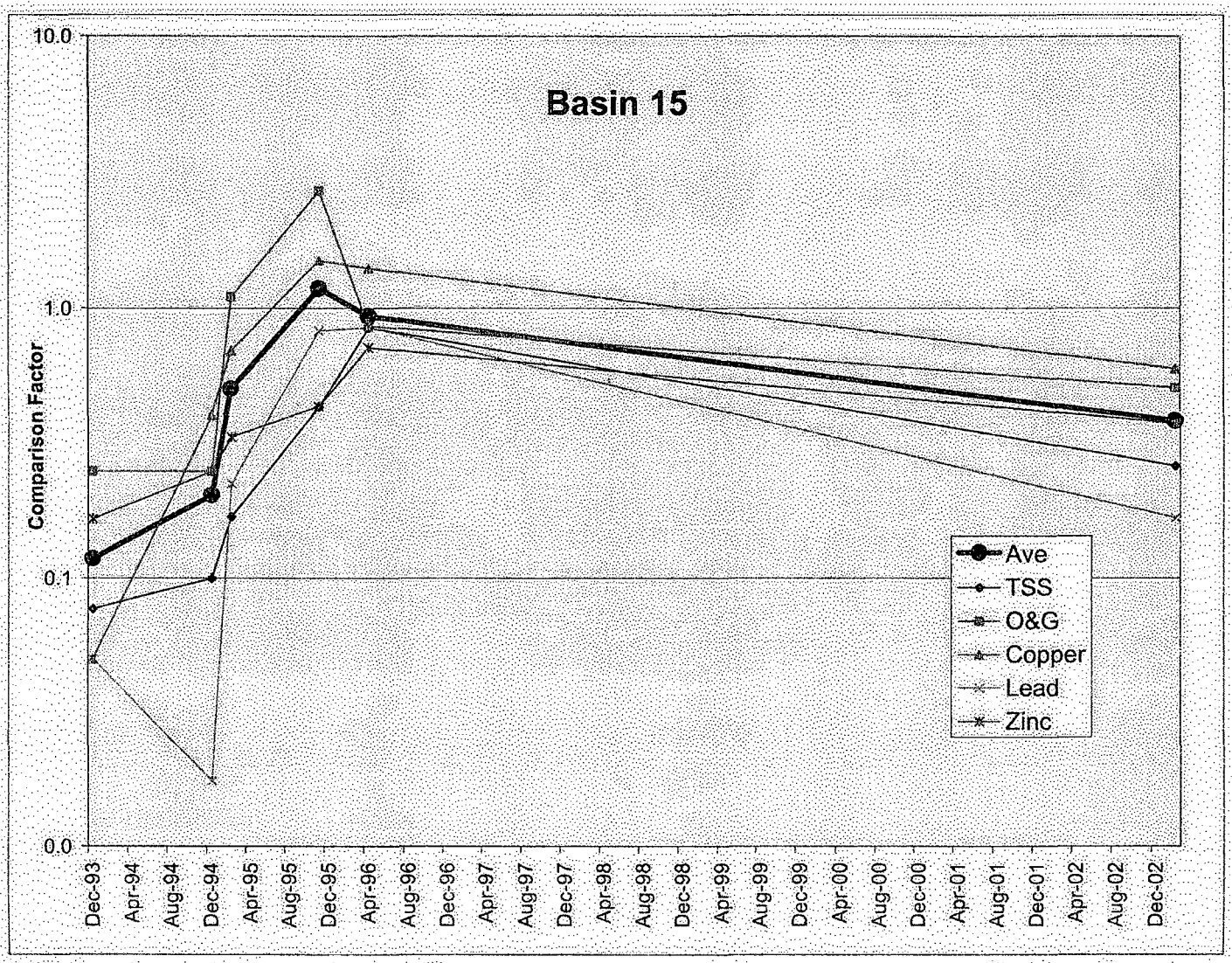

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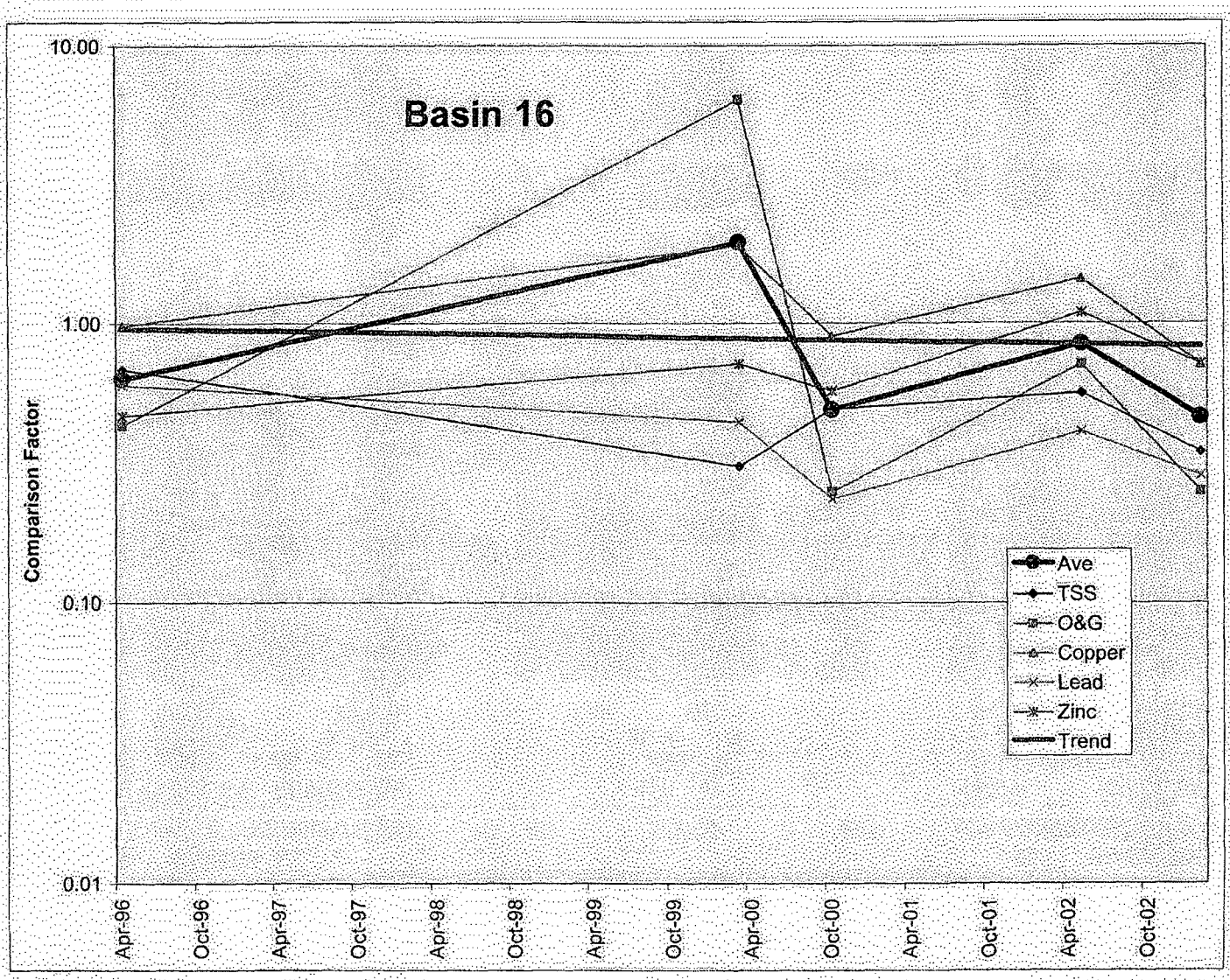

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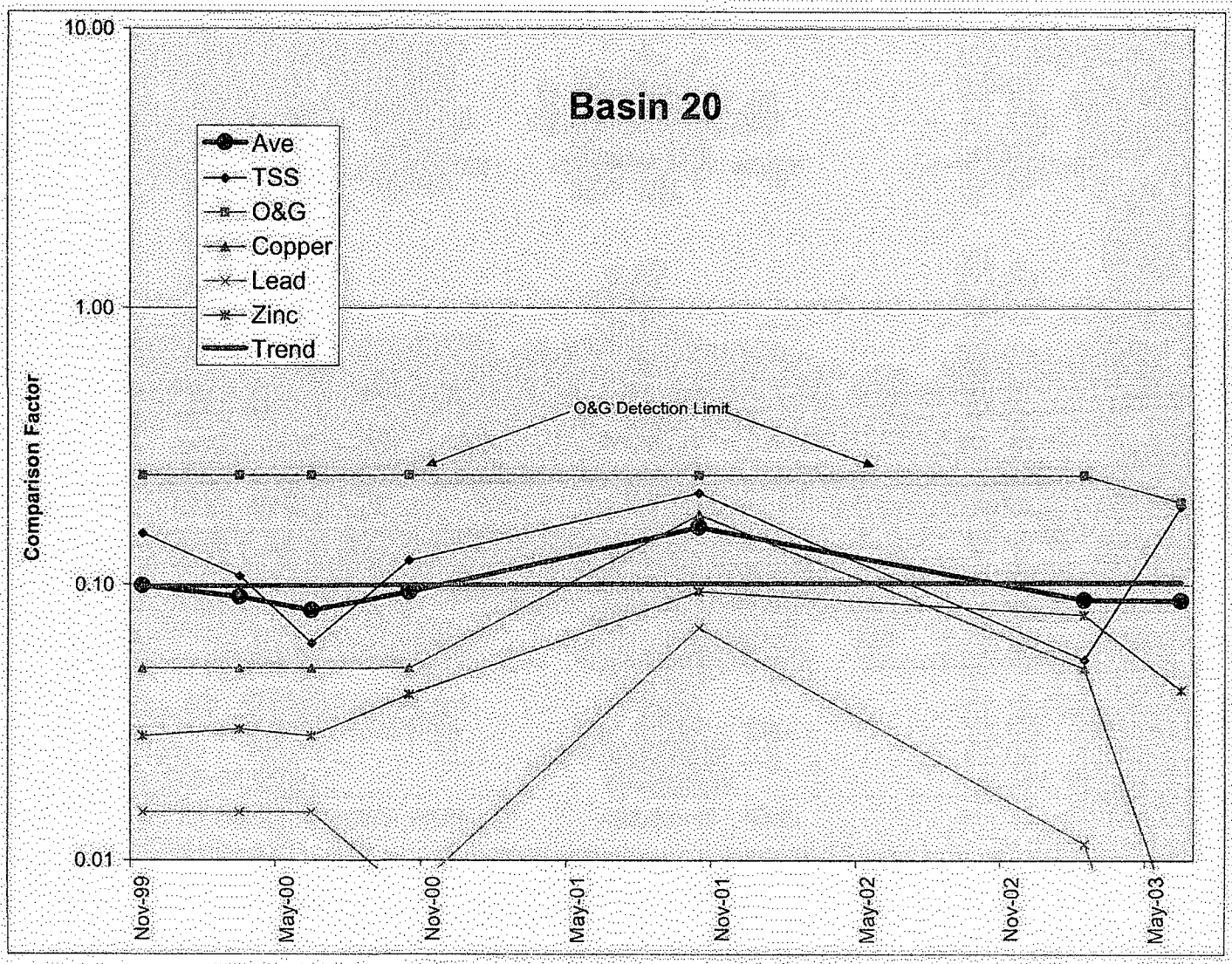

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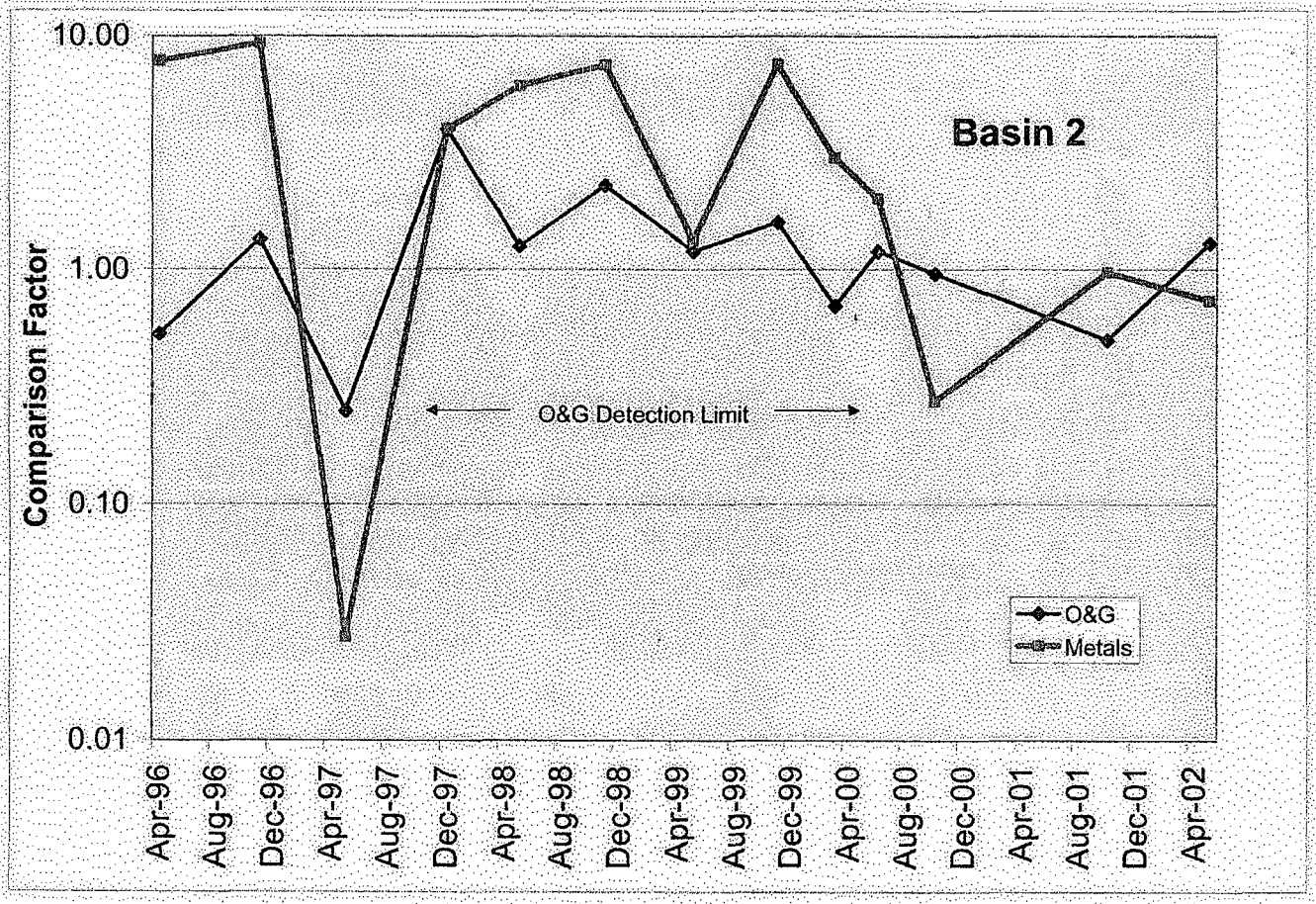

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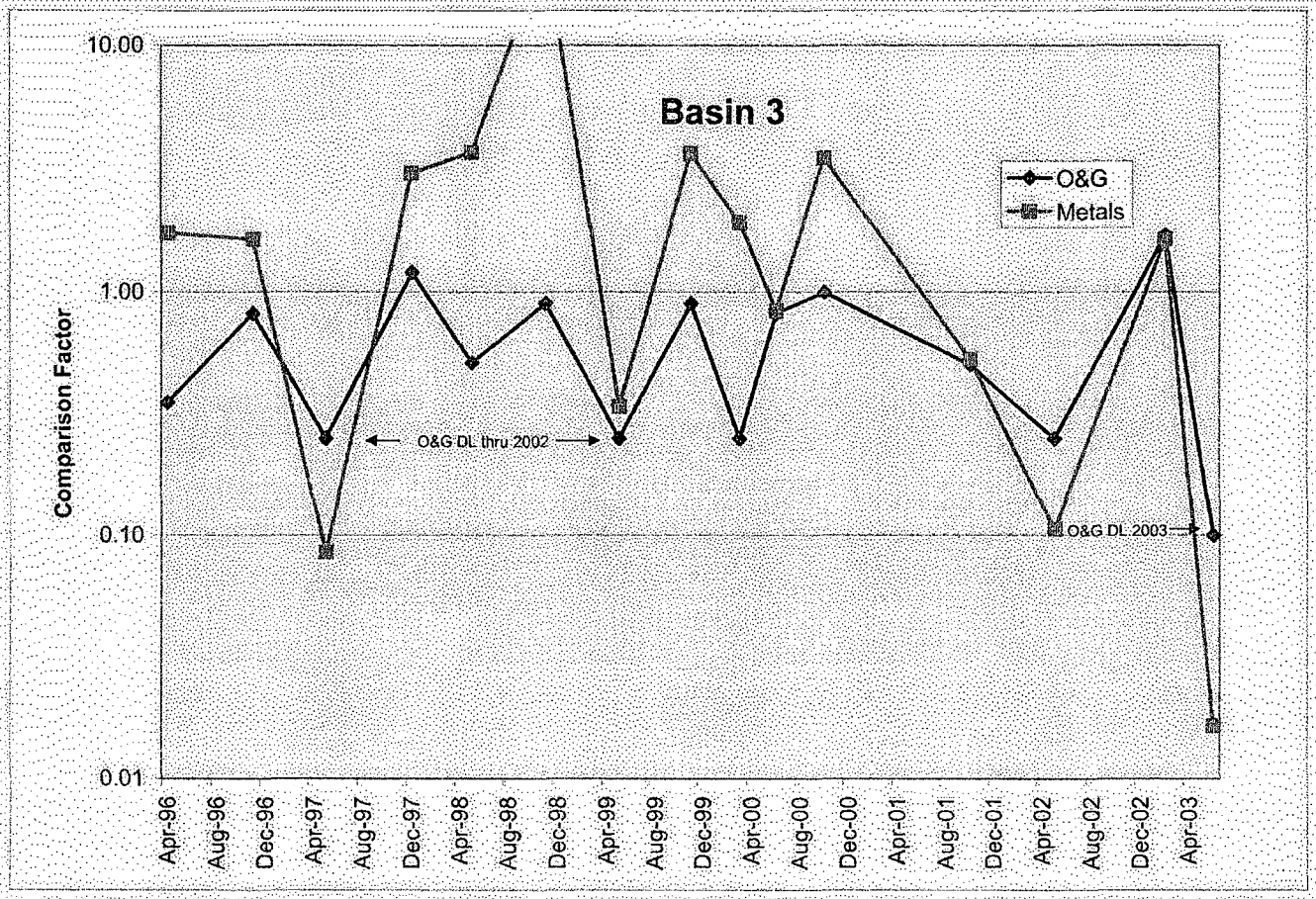

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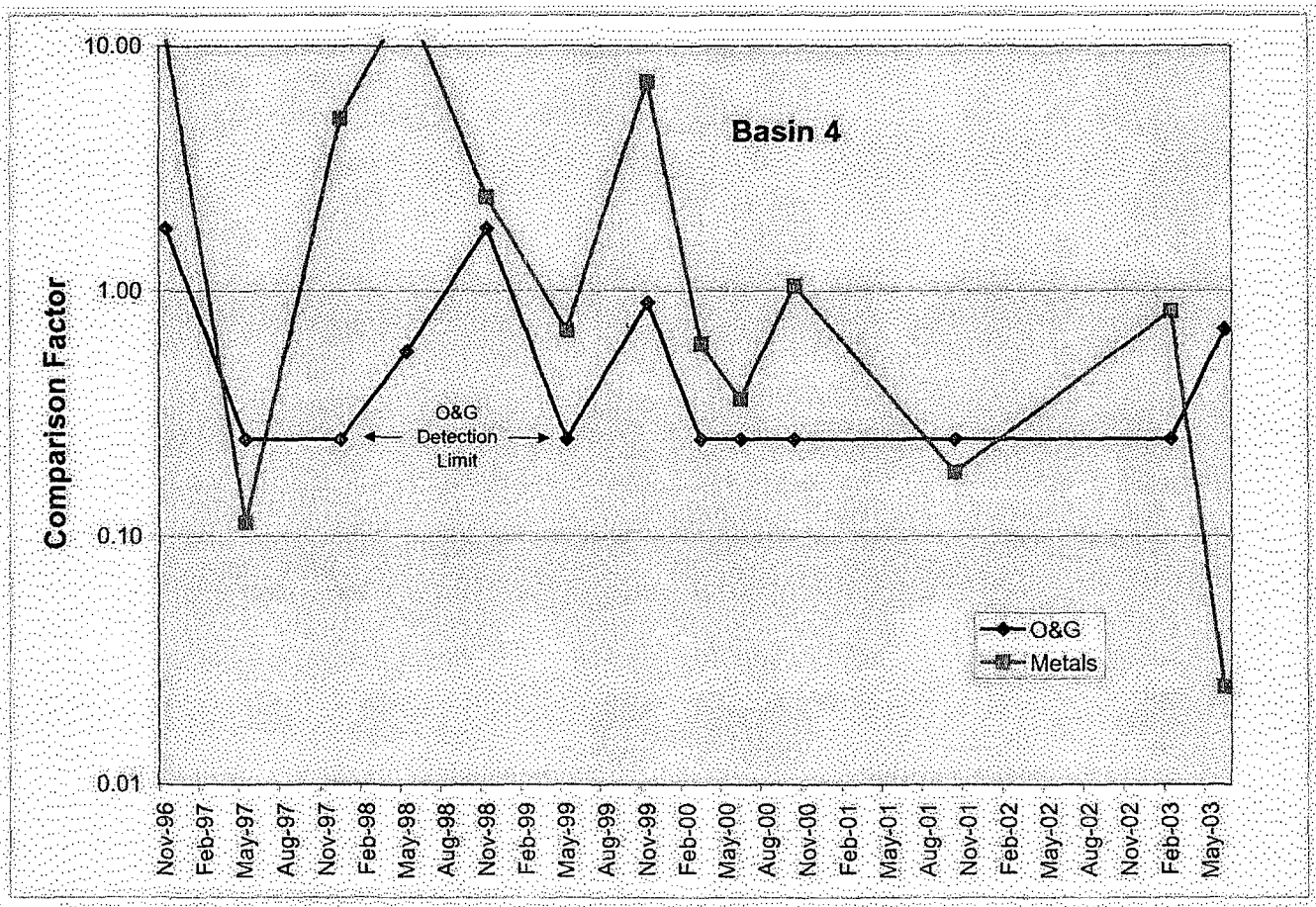

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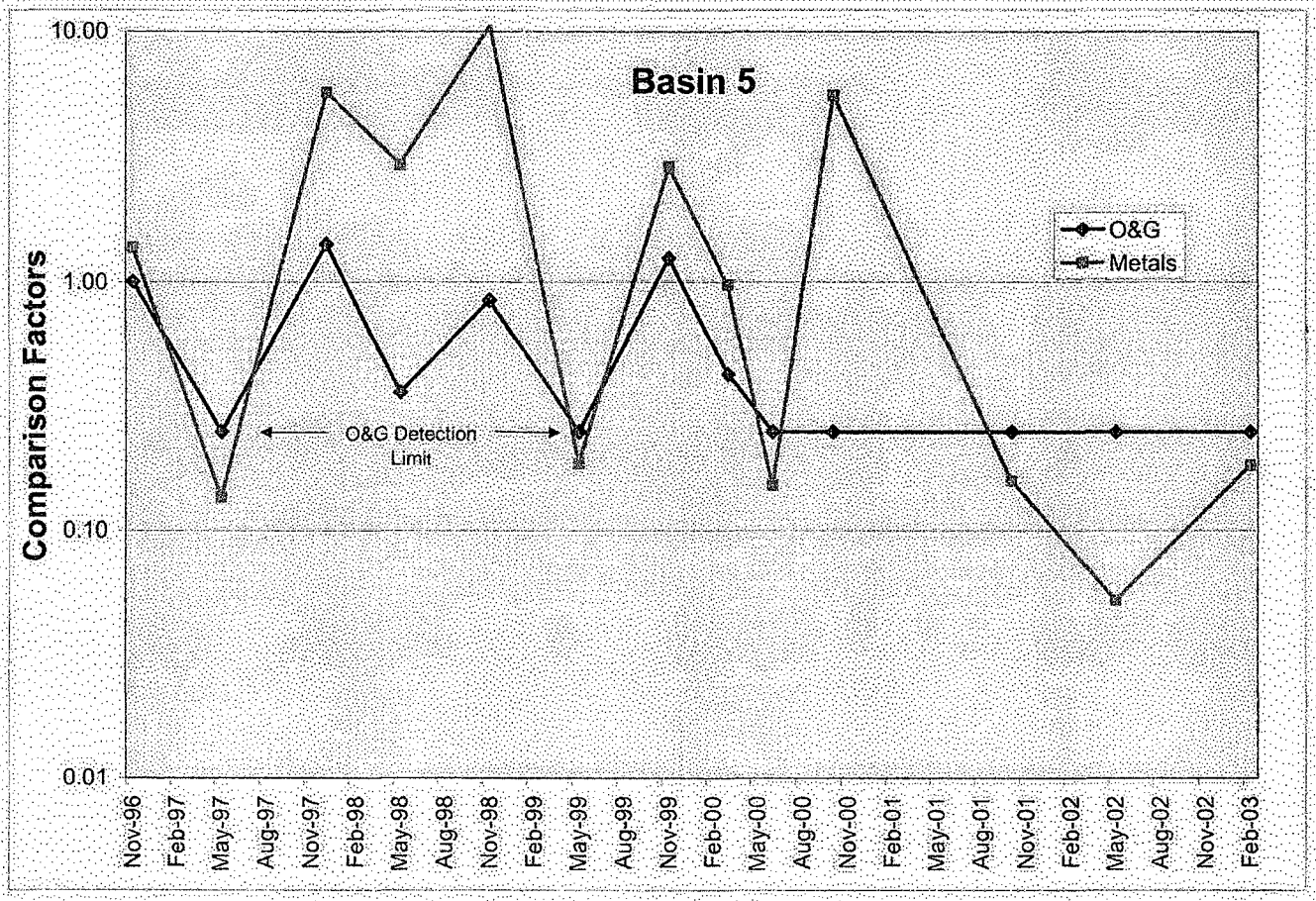

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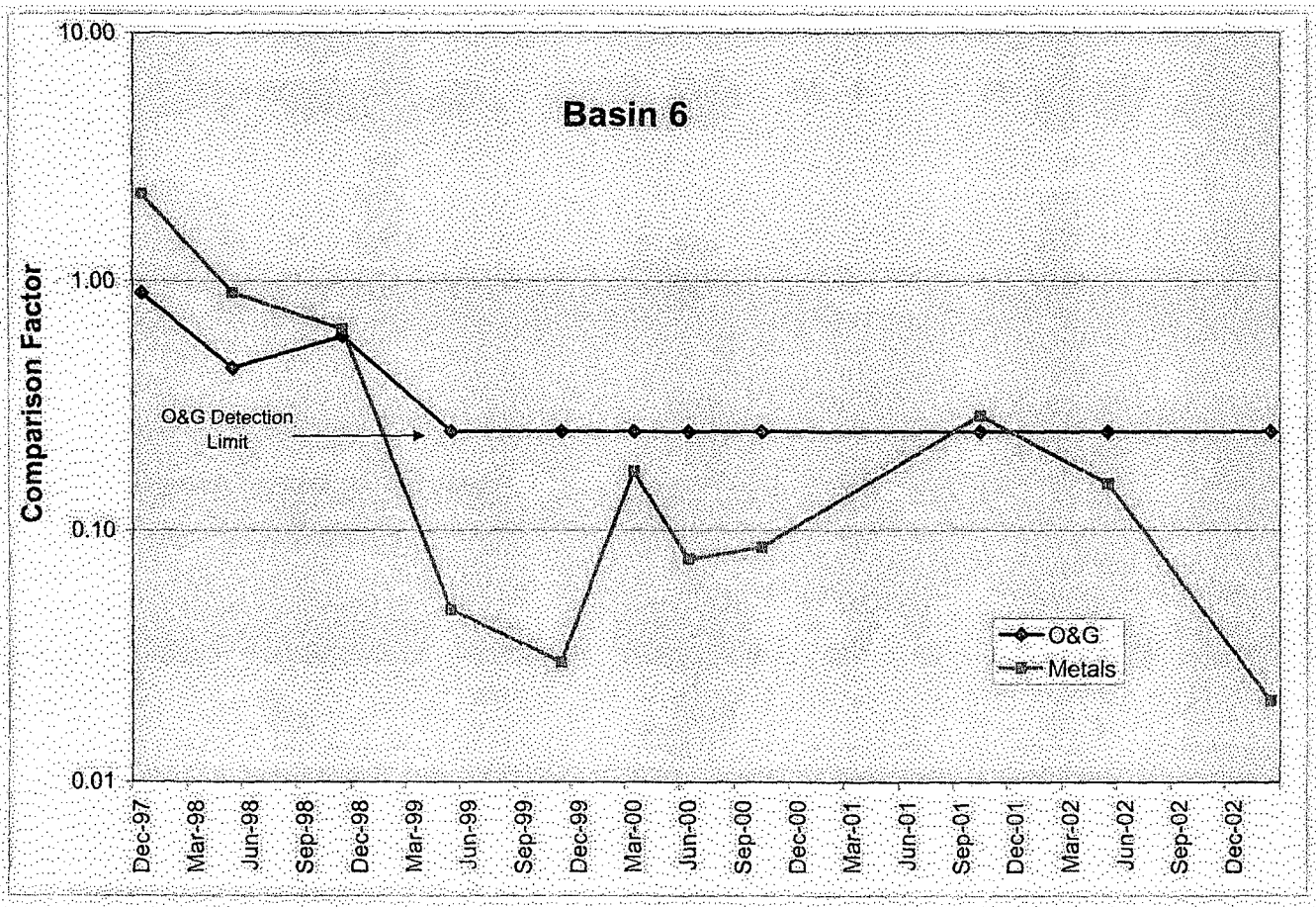

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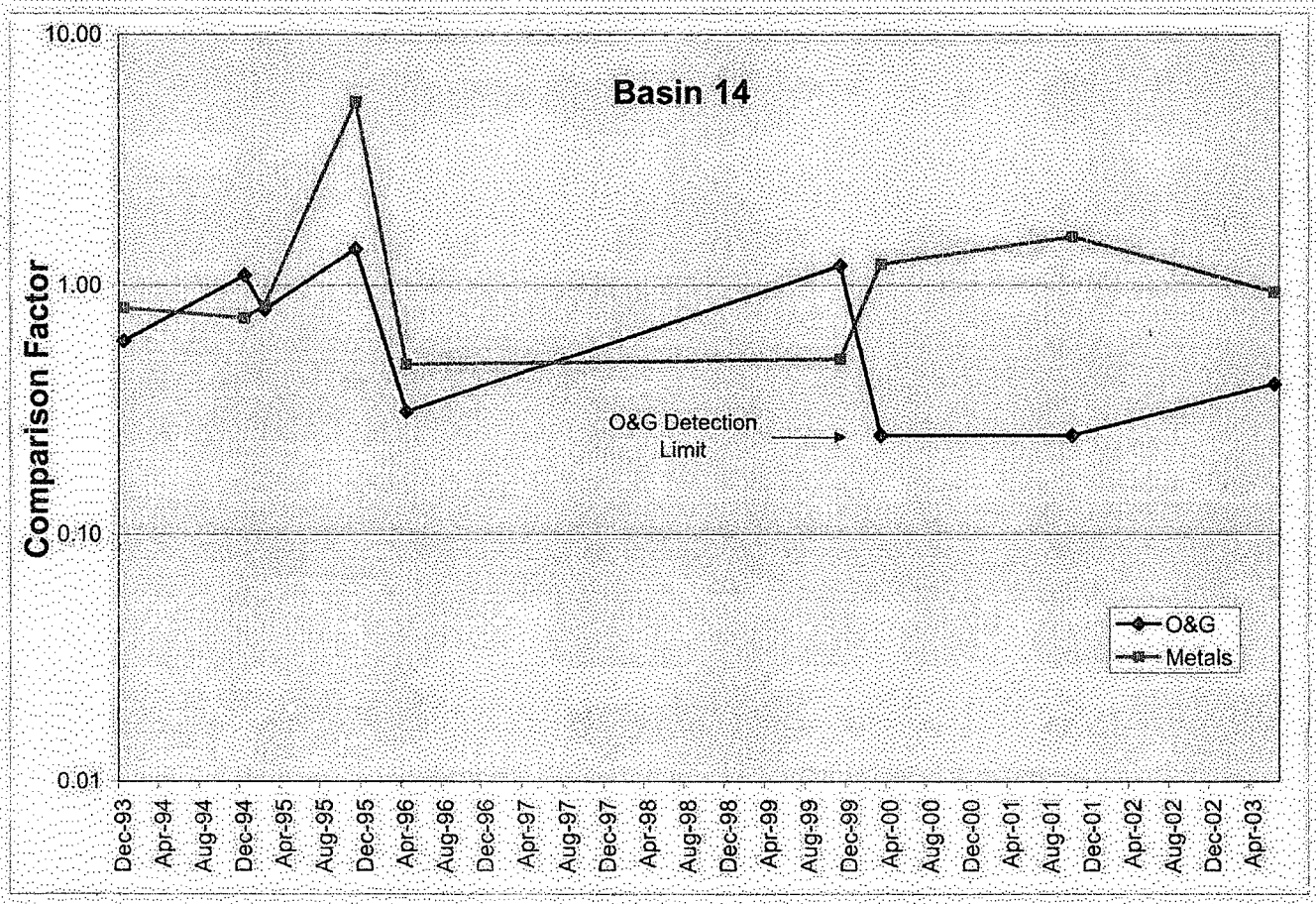
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0.01
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Apr-94
Aug-94
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Apr-95
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Apr-96
Aug-96
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Apr-97
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Apr-98
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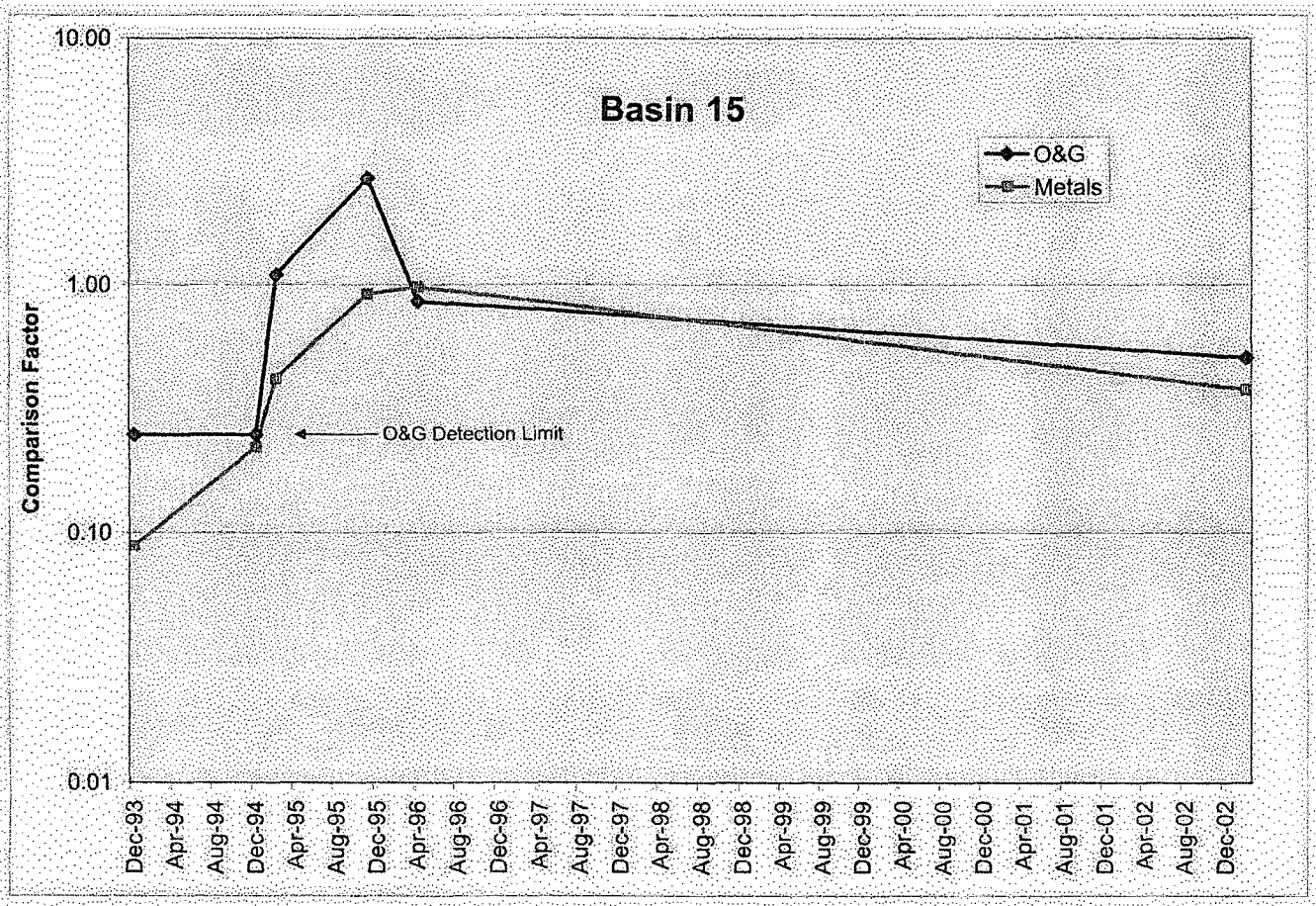
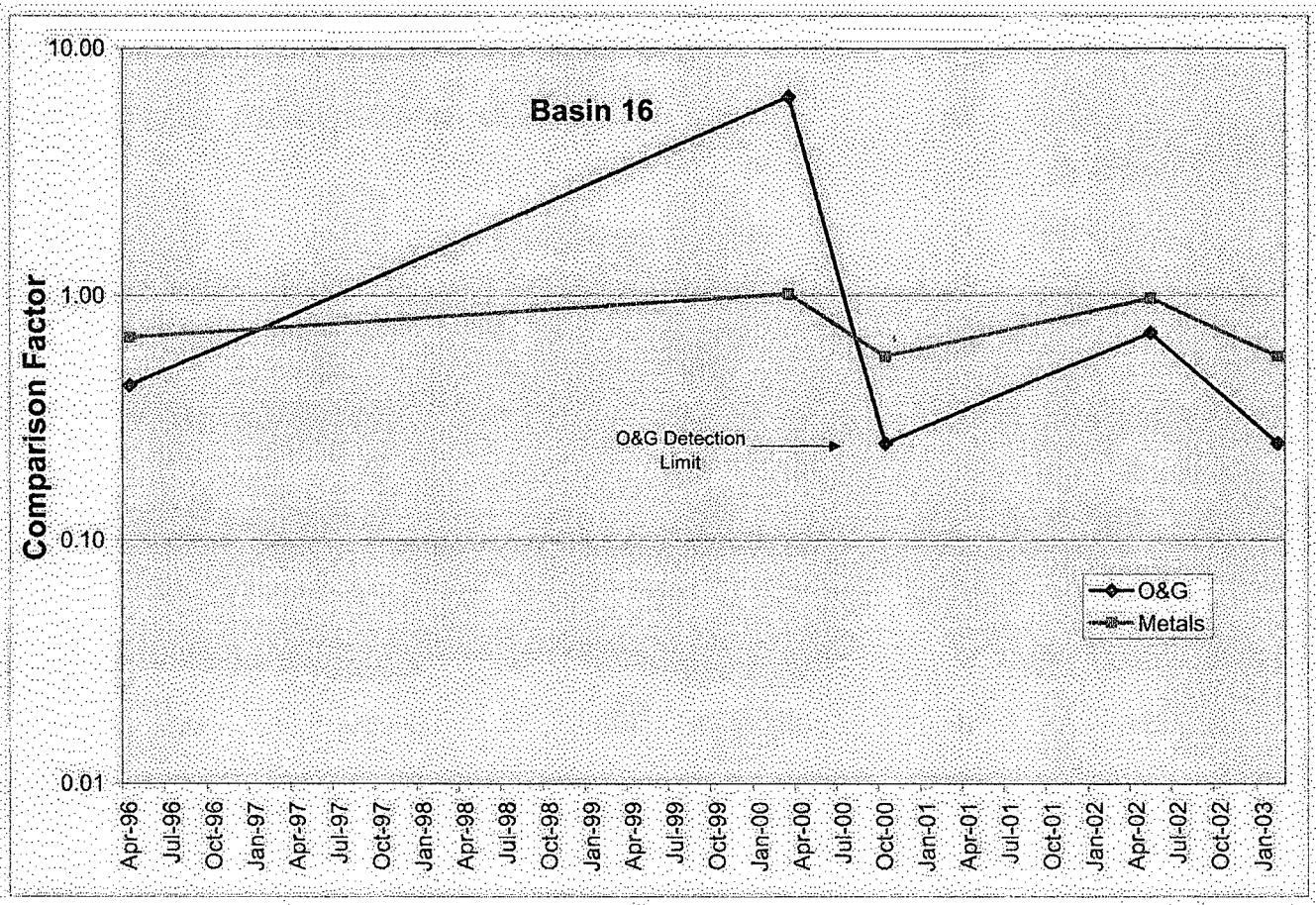
Dec-02
Apr-03



SCHN00152115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O&G Detection Limit
O&G
Metals
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Oct-96
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Jul-97
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Oct-98
Jan-99
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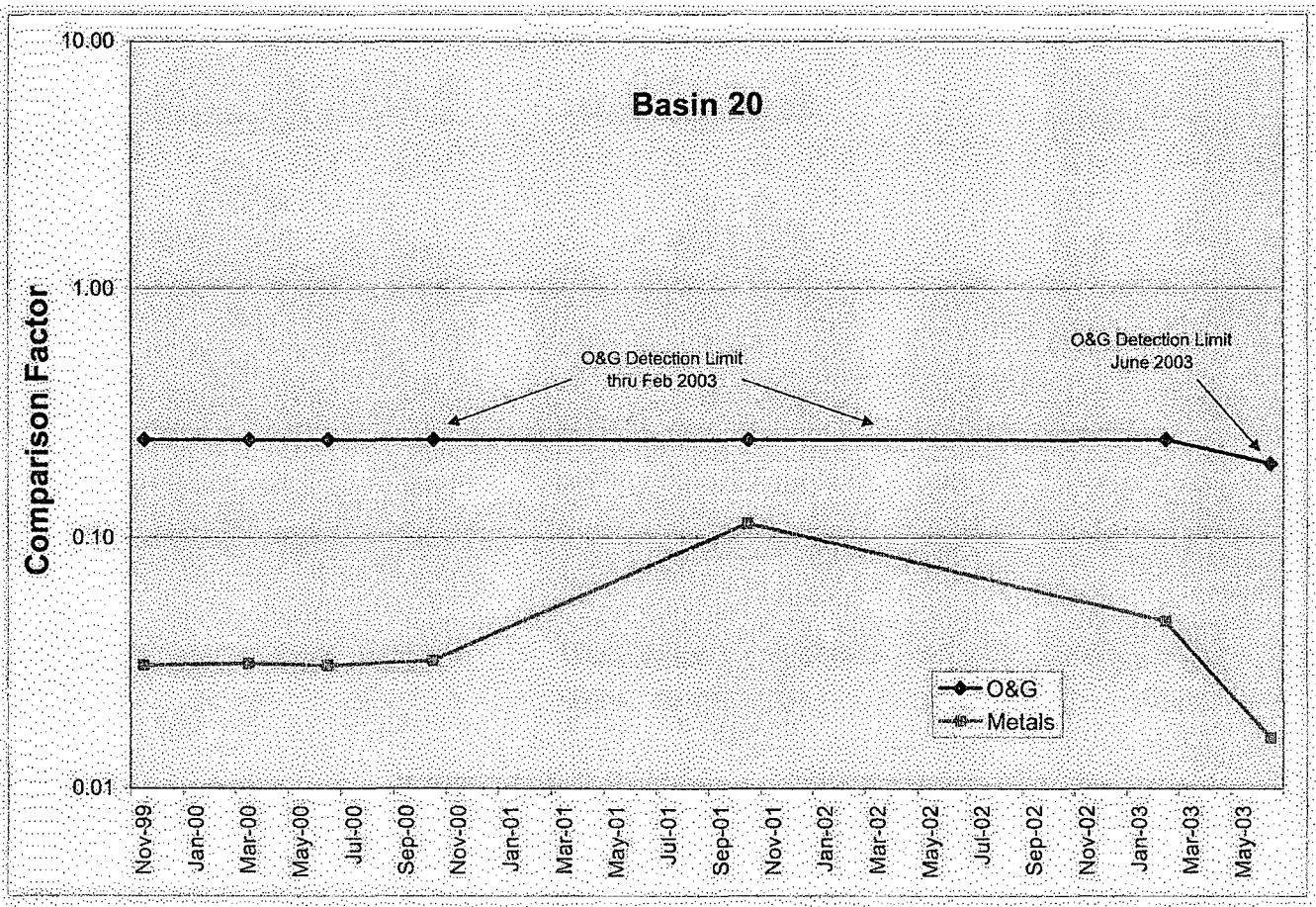
Jul-02
Oct-02
Jan-03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Comparison Factor
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0.01
O&G Detection Limit
thru Feb 2003
O&G Detection Limit
June 2003
O&G
Metals
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Jan-00
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May-00
Jul-00
Sep-00
Nov-00
Jan-01
Mar-01
May-01
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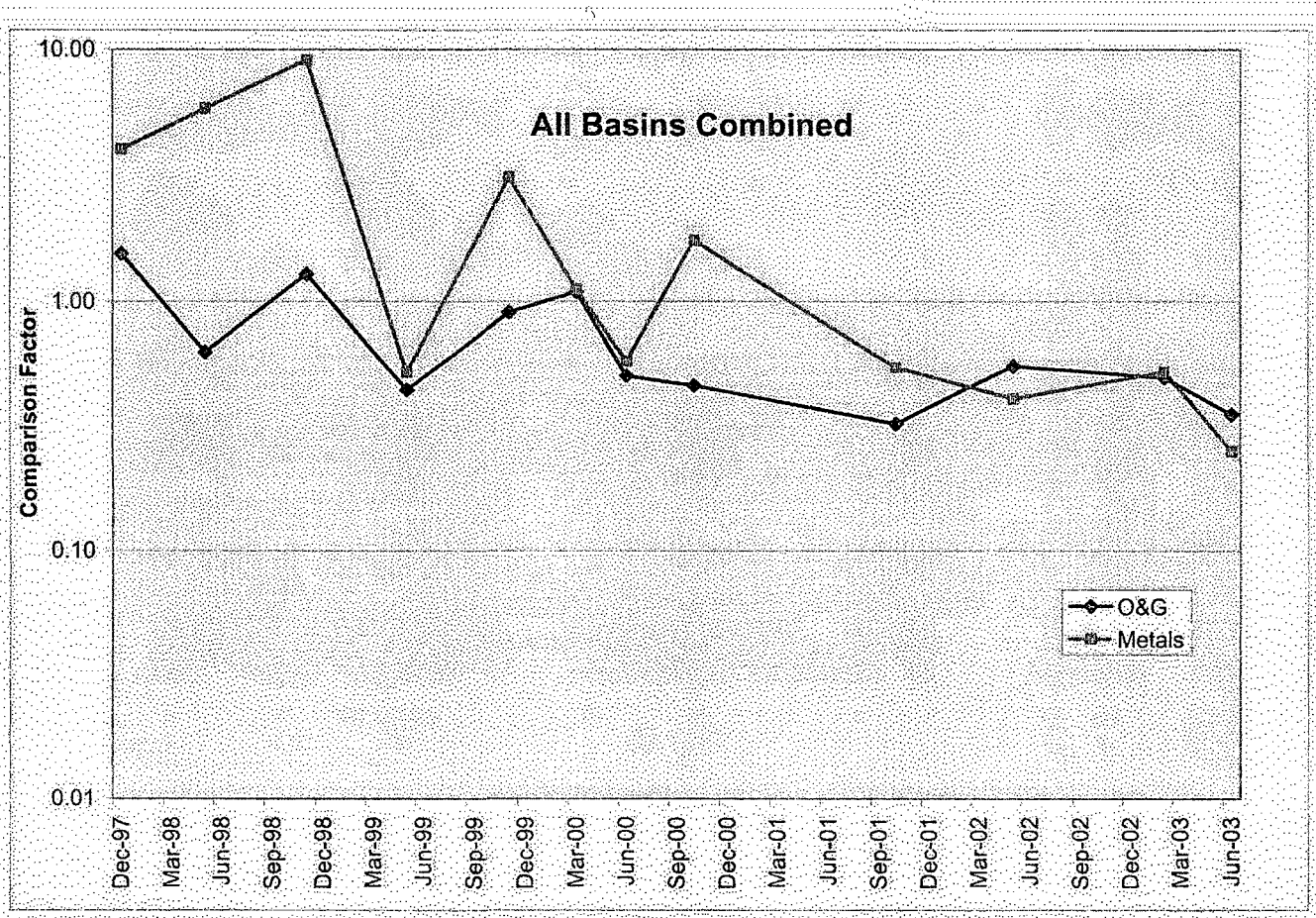


SCHN00152118

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

January 13, 2004

Ms. Alicia Voss
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
October through December 2003
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period October through December 2003 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed October through December 2003

- Prepared quarterly status report and submitted to DEQ on October 13, 2003.
- Met with DEQ on December 5, 2003 to discuss DEQ questions regarding the *Enhanced Best Management Practice* program.
- Measured depth to groundwater in all site monitoring wells and collected groundwater samples from MW-1, MW-2, MW-4, and MW-5 for chemical analysis on December 14, 2003.

Activities Planned January through March 2004

- Submit additional storm water monitoring summary charts and tables to DEQ as requested during December 5, 2003 meeting.
- Submit groundwater monitoring report for semi-annual groundwater sampling event.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated October through December 2003

Sampling, test results, and other data generated during October through December were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced October through December 2003

No problems other than those documented above were encountered during October through December 2003.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

SCHNITZER
INVESTMENT CORP.

January 12, 2004

Ms. Alicia Voss
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Notice of Sampling
Burgard Industrial Park RI Project

This letter provides notice to Oregon Department of Environmental Quality of soil sampling and analysis to be performed on the Burgard Industrial Park RI project in Portland, Oregon. Soil sampling and analysis will be performed in the area of TP-1 (See Figure 3-1 in the October 29, 2001, Phase I Remedial Investigation Work Plan). The purpose of the sampling and analysis is to asses for the presence of PCBs in the shallow soil beneath the pavement in this area. As noted in Table 3-1 of the Work Plan, PCBs were detected in a single soil sample from TP-1 at a depth of about 1 foot in 1997. If detected, Schnitzer Investment Corp. plans to remove the soil in the vicinity of the localized hot spot.

The anticipated soil sampling, analysis and potential removal is part of the overall, continued program of Best Management Practices enhancement and general housekeeping improvements ongoing at the Burgard site. The sampling is expected to be conducted in late January or early February.

Please call if you have any questions.

Sincerely,

SCHNITZER INVESTMENT CORP.

Mathew Cusma
Environmental Administrator

cc: Tom Zelenka/Schnitzer

3200 N.W. Yeon Avenue P.O. Box 10047 Portland, OR 97296-0047 • Tel: 503.224.9900 Fax: 503.323.2804 www.schnitzerinvestment.com

Outfall	New Drainage Basin	Date	pH	TSS	TPH	Copper	Lead	Zinc	Arsenic	Cadmium	Chromium	Mercury	Nickel
2	2	12/14/1993	8.3	32	4	0.06	0.11	0.7	0.005 U	0.004	0.01	0.0002 U	0.01 U
3	3	12/14/1993	8.03	160	5 U	0.025	0.42	2.3	0.005	0.01	0.053	0.0002 U	0.05
4	4	12/14/1993	6.85	170	6	0.01 U	0.06	0.16	0.007	0.002	0.014	0.0002 U	0.01 U
5	5	12/14/1993	7.77	110	13	0.08	0.14	0.49	0.005 U	0.004	0.025	0.0002 U	0.01 U
6	5	12/14/1993	7.72	130	11	0.06	0.06	0.11	0.005 U	0.001	0.01	0.0002 U	0.01 U
7	6	12/14/1993	8.24	25	5 U	0.01 U	0.01	0.01 U	0.005 U	0.002 U	0.006	0.0002 U	0.01 U
9	9	12/14/1993	8.64	330	5 U	0.15	0.68	0.81	0.005 U	0.03	0.048	0.0015	0.01 U
14	14	12/14/1993	7.99	100	6	0.1	0.26	0.48	0.005 U	0.002	0.04	0.0002 U	0.01 U
15	15	12/14/1993	7.93	10	5 U	0.01 U	0.02	0.1	0.005 U	0.001	0.012	0.0002 U	0.01 U
16	16	12/14/1993	7.6	56	13	0.07	0.08	0.21	0.005 U	0.004	0.019	0.0002 U	0.01 U
18	18	12/14/1993	8.24	25	8	0.16	0.31	0.52	0.005	0.003	0.059	0.0002 U	0.01 U
11?	?	12/14/1993	9.55	85	5 U	0.01 U	0.3	0.12	0.005 U	0.002 U	0.011	0.0002 U	0.01 U
12?	?	12/14/1993	7.7	70	5 U	0.2	0.39	0.67	0.005 U	0.003	0.054		0.01 U
17?	?	12/14/1993	9.04	38	5 U	0.01 U	0.09	0.28	0.005 U	0.001	0.026	0.0002 U	0.01 U
2	2	12/14/1994	8.43	530	20	0.34	0.74	5.9	0.01 U	0.026	0.082	0.002	0.08
3	3	12/14/1994	7.52	8	6	0.04	0.025	0.16	0.01 U	0.002 U	0.004	0.0002 U	0.1 U
4	4	12/14/1994	7.74	30	5 U	0.13	0.033	0.13	0.01 U	0.002 U	0.08	0.0002 U	0.01 U
5	5	12/14/1994	7.46	280	8	0.12	0.3	0.74	0.01 U	0.006	0.048	0.0002 U	0.05
6	5	12/14/1994	8.88	54	8	0.03	0.031	0.06	0.01 U	0.002 U	0.013	0.0002 U	0.1 U
7	6	12/14/1994	9.71	32	5 U	0.04	0.017	0.05	0.01 U	0.002 U	0.01	0.0002 U	0.1 U
10	10	12/14/1994	7.75	10	5 U	0.01 U	0.005	0.05	0.01 U	0.002 U	0.01 U	0.0002 U	0.1 U
14	14	12/14/1994	7.76	81	11	0.11	0.19	0.39	0.01 U	0.002	0.036	0.0006	0.01
15	15	12/14/1994	7.79	13	5 U	0.04	0.007	0.15	0.01 U	0.002 U	0.006	0.0002 U	0.06
16	16	12/14/1994	7.3	12	2	0.03	0.022	0.15	0.01 U	0.002 U	0.006	0.0002 U	0.1
18	18	12/14/1994	7.28	180	9	0.66	0.55	1.2	0.013	0.011	0.05	0.004	0.08
11?	?	12/14/1994	7.66	76	5	0.05	0.056	0.13	0.01 U	0.002 U	0.014	0.0002 U	0.1 U
12?	?	12/14/1994	7.32	65	7	0.19	0.32	0.6	0.006	0.003	0.054	0.0016	0.02
17?	?	12/14/1994	8.52	180	6	0.28	0.55	0.77	0.006	0.006	0.095	0.0002 U	0.03
2	2	2/17/1995	7.32	32	5 U	0.05	0.08	0.64	0.01 U	0.004	0.009	0.0002 U	0.01 U
3	3	2/17/1995	8.15	340	19	0.55	1.1	6.7	0.013	0.031	0.15	0.0029	0.11
4	4	2/17/1995	7.84	250	12	0.08	0.18	0.43	0.01 U	0.002	0.043	0.0002 U	0.02
5	5	2/17/1995	9.8	28	5 U	0.01 U	0.005	0.03	0.01 U	0.002 U	0.01 U	0.0002 U	0.02 U
6	5	2/17/1995	7.61	140	16	0.16	0.33	1.2	0.01 U	0.004	0.056	0.0016	0.06
7	6	2/17/1995	8.77	80	7	0.02	0.064	0.09	0.01 U	0.002 U	0.01	0.0002 U	0.1 U
14	14	2/17/1995	9.08	40	8	0.11	0.21	0.52	0.01 U	0.002	0.039	0.001	0.02
15	15	2/17/1995	7.74	22	11	0.07	0.09	0.2	0.01 U	0.002 U	0.012	0.0002 U	0.02
16	16	2/17/1995	7.53	6	8	0.01 U	0.017	0.06	0.01 U	0.003	0.01 U	0.0002 U	0.03
18	18	2/17/1995	7.64	36	15	0.23	0.07	0.27	0.009	0.001	0.01	0.0013	0.04
11?	?	2/17/1995	8.86	180	5 U	0.04	0.08	0.14	0.01 U	0.002 U	0.01	0.0002 U	0.1 U
12?	?	2/17/1995	7.73	140	10	0.35	0.78	1.1	0.012	0.004	0.084	0.0025	0.05
17?	?	2/17/1995	7.62	8	5 U	0.01 U	0.002	0.09	0.01 U	0.002 U	0.017	0.0002 U	0.1 U
2	2	11/27/1995	7.6	420	11	0.42	0.78	5.3	0.01 U	0.007	0.18	0.0014	0.1 U
3	3	11/27/1995	7.5	27	3 U	0.06	0.05	0.24	0.01 U	0.002 U	0.01	0.0002 U	0.1 U

SCHN00152122

Outfall	New Drainage Basin	Date	pH	TSS	TPH	Copper	Lead	Zinc	Arsenic	Cadmium	Chromium	Mercury	Nickel
4	4	11/27/1995	7	64	3 U	0.02	0.05	0.18	0.01 U	0.002 U	0.02	0.0002 U	0.1 U
5	5	11/27/1995	8.5	280	6	0.12	0.22	0.54	0.01 U	0.002 U	0.05	0.0006	0.1 U
6	5	11/27/1995	7.3	24	3 U	0.01 U	0.02	0.05	0.01 U	0.002 U	0.01 U	0.0002 U	0.1 U
7	6	11/27/1995	9.1	250	4	0.02	0.05	0.15	0.01 U	0.002 U	0.03	0.0002 U	0.1 U
14	14	11/27/1995	8.8	460	14	0.64	1.2	4.1	0.02	0.01	0.45	0.0046	0.1 U
15	15	11/27/1995	7.9	56	27	0.15	0.33	0.26	0.01 U	0.003	0.03	0.0004	0.1 U
16	16	11/27/1995	7.4	17	3 U	0.03	0.05	0.15	0.01 U	0.002 U	0.01	0.0002 U	0.1 U
18	18	11/27/1995	7.6	41	4	0.07	0.11	0.3	0.01 U	0.002 U	0.03	0.0008	0.1 U
11?	?	11/27/1995	9.1	200	3	0.07	0.09	0.2	0.01 U	0.002 U	0.03	0.004	0.1 U
12?	?	11/27/1995	7.3	1900	6	3.1	3.3	10	0.07	0.029	1	0.012	0.35
17?	?	11/27/1995	8.9	130	3 U	0.09	0.09	0.26	0.01 U	0.002 U	0.06	0.0002 U	0.1 U
2	2	4/12/1996	7.9	720	5.3	0.6	1.2	8.7	0.013	0.024	0.14	0.0029	0.13
3	3	4/12/1996	8.4	250	3.5	0.14	0.26	1.9	0.002	0.005 U	0.026	0.0002 U	0.027
4	4	4/12/1996	8.1	1200	1.9	0.19	0.32	1.8	0.006	0.005 U	0.054	0.0007	0.044
5	5	4/12/1996	8.6	250	4.1	0.15	0.35	0.74	0.005	0.005 U	0.039	0.001	0.033
6	5	4/12/1996	8.5	540	1.9	0.08	0.11	0.29	0.005	0.005 U	0.023	0.0003	0.033
7	6	4/12/1996	9.2	130	3.5	0.073	0.14	0.3	0.006	0.005 U	0.029	0.0003	0.03
14	14	4/12/1996	7.7	56	3.1	0.067	0.11	0.3	0.02 U	0.005 U	0.017	0.0002 U	0.02 U
15	15	4/12/1996	8.5	110	8.6	0.14	0.34	0.43	0.006	0.005 U	0.019	0.001	0.037
16	16	4/12/1996	8.1	89	4.3	0.098	0.24	0.28	0.002	0.005 U	0.01 U	0.0004	0.04
18	18	4/12/1996	8.1	71	3.2	0.17	0.23	0.44	0.007	0.005 U	0.042	0.0007	0.026
11?	?	4/12/1996	9.2	1200	5.4	0.27	0.54	1	0.021	0.005 U	0.14	0.001	0.098
12?	?	4/12/1996	7.8	61	3.3	0.46	1.2	2.2	0.011	0.006	0.1	0.003	0.074
17?	?	4/12/1996	8.9	95	2	0.085	0.16	0.27	0.003	0.005 U	0.034	0.0003	0.02 U
2	2	11/18/1996	8.17	1280	13.5	0.679	1.57	10.4	0.008	0.03	0.209	0.004	0.141
3	3	11/18/1996	7.91	304	8.2	0.17	0.318	1.45	0.005 U	0.004	0.058	0.0008	0.03
4	4	11/18/1996	8.39	1350	18	1.32	2.76	7.87	0.014	0.03	0.3	0.0118	0.227
5	5	11/18/1996	8.34	860	14.8	0.198	0.461	1.27	0.006	0.004 U	0.086	0.0013	0.062
6	5	11/18/1996	8.56	368	5.4	0.113	0.285	0.72	0.005 U	0.004 U	0.042	0.0011	0.03
2	2	5/28/1997	7.66	6	5 U		0.002	0.03	0.005 U	0.004 U	0.005 U	0.0005 U	0.02 U
3	3	5/28/1997	7.77	13	5 U		0.015	0.08	0.005 U	0.004 U	0.005 U	0.0005 U	0.02 U
4	4	5/28/1997	7.71	58	5 U		0.025	0.1	0.005 U	0.004 U	0.005 U	0.0005 U	0.02 U
6	5	5/28/1997	9.33	52	5 U		0.036	0.11	0.006	0.004 U	0.022	0.0005 U	0.02 U
2	2	12/9/1997	7.82	184	40	0.31	0.606	4.47	0.005 U	0.016	0.041	0.0022	0.048
3	3	12/9/1997	7.63	96	12	0.267	0.424	3.21	0.005 U	0.011	0.023	0.0012	0.034
4	4	12/9/1997	9.41	65	5 U	1.39	0.146	0.56	0.005 U	0.004 U	0.024	0.0005 U	0.02 U
5	5	12/9/1997	8.49	73	26	1.81	1.39	3.93	0.005 U	0.018	0.188	0.0048	0.113
6	5	12/9/1997	9.98	101	5 U	0.565	0.115	0.28	0.005 U	0.004 U	0.021	0.0005 U	0.02 U
7	6	12/9/1997	8.87	452	9	0.505	0.263	0.63	0.005 U	0.004 U	0.031	0.0008	0.02 U
2	2	5/20/1998	7.64	208	12.6	0.624	1.06	5.72					
3	3	5/20/1998	7.96	94	5.1	0.586	0.394	2.51					
4	4	5/20/1998	7.74	360	5.7	4.23	0.456	2.1					
5	5	5/20/1998	7.6	130	3.3	0.431	0.562	1.61					

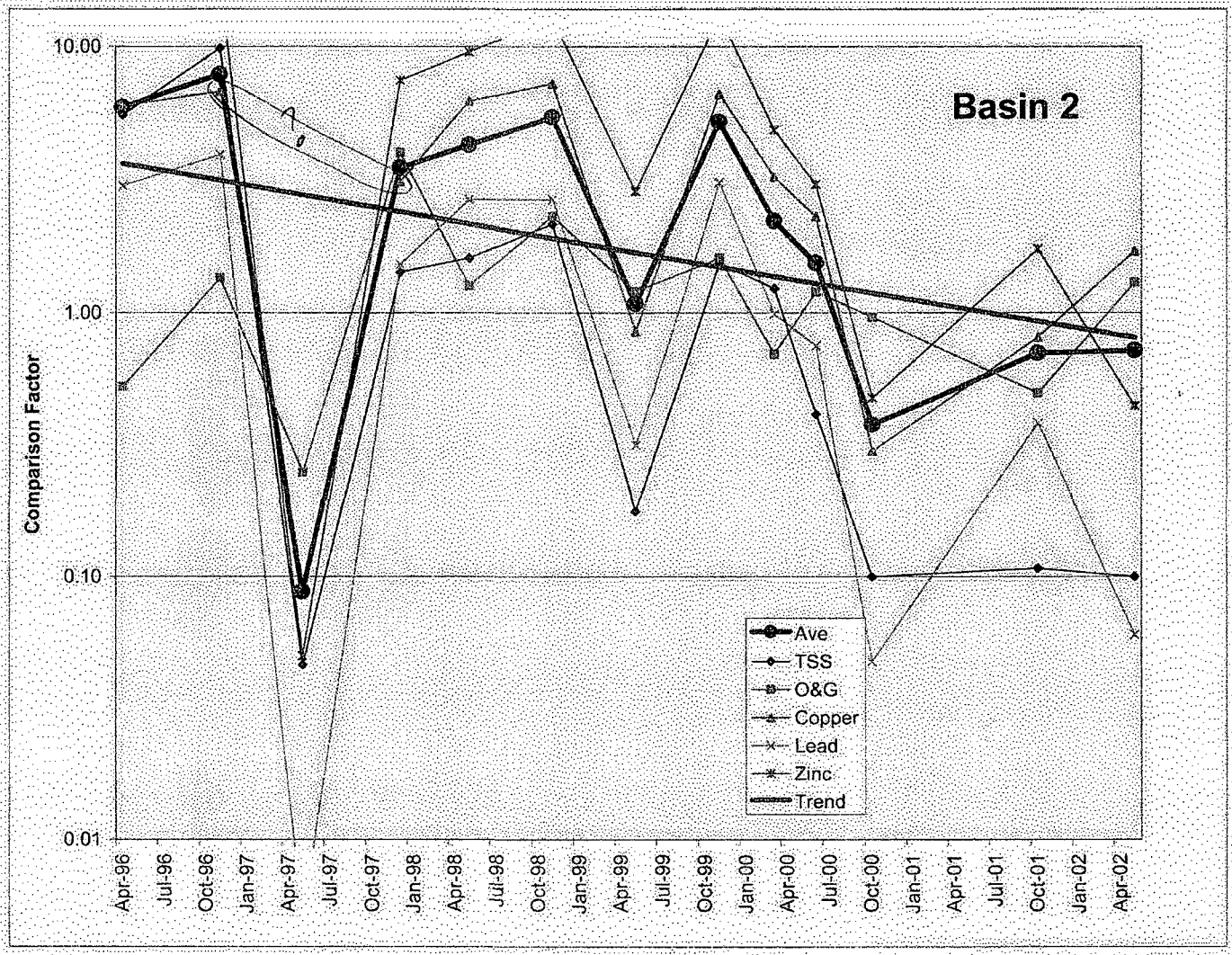
SCHN00152123

Outfall	New Drainage Basin	Date	pH	TSS	TPH	Copper	Lead	Zinc	Arsenic	Cadmium	Chromium	Mercury	Nickel
6	5	5/20/1998	7.98	412	3.9	0.801	0.16	0.56					
7	6	5/20/1998	8.16	270	4.5	0.203	0.078	0.29					
2	2	11/23/1998	7.56	280	23	0.725	1.06	7.67					
3	3	11/23/1998	6.87	200	9	7.08	0.344	0.806					
4	4	11/23/1998	9.75	1120	18	0.499	0.26	0.973					
5	5	11/23/1998	8.36	220	9	4.76	0.284	0.49					
6	5	11/23/1998	8.97	420	8	1.27	0.256	0.757					
7	6	11/23/1998	8.15	19	6	0.132	0.088	0.237					
7D	6	11/23/1998	8.2	46	8	0.169	0.116	0.336					
2	2	5/3/1999	7.21	23	12	0.085	0.126	1.71					
3	3	5/3/1999	7.09	5 U	5 U	0.051	0.027	0.262					
4	4	5/3/1999	7.06	5 U	5 U	0.197	0.003	0.064					
5	5	5/3/1999	7.04	5 U	5 U	0.022	0.008	0.074					
6	5	5/3/1999	7.05	5 U	5 U	0.073	0.004	0.012					
7	6	5/3/1999	7.47	8	5 U	0.012	0.003	0.011					
4D	4	5/3/1999	7	6	5 U	0.199	0.004	0.063					
2	2	11/11/1999	7.61	200	16	0.663	1.23	7.87					
3	3	11/11/1999	7.42	88	9	0.383	0.56	3.42					
4	4	11/11/1999	8.46	287	9	2	0.138	0.634					
5	5	11/11/1999	7.2	113	11	0.232	0.24	1.57					
6	5	11/11/1999	9.14	272	14	1.12	0.083	0.274					
7	6	11/11/1999	9.45	35	5 U	0.01 U	0.006	0.017					
14	14	11/11/1999	8.25	13	12	0.052	0.034	0.547					
20	20	11/11/1999	9.45	20	5 U	0.01 U	0.006	0.017					
2	2	3/4/2000	7.79	160	7	0.323	0.396	2.91					
3	3	3/4/2000	7.58	77	5 U	0.216	0.24	1.8					
4	4	3/4/2000	10.35	36	5 U	0.138	0.039	0.218					
5	5	3/4/2000	7.91	112	6	0.214	0.228	1.38					
6	5	3/4/2000	9.8	26	5 U	0.079	0.012	0.031					
7	6	3/4/2000	8.52	49	5 U	0.029	0.036	0.085					
20	20	3/4/2000	9.4	14	5 U	0.01 U	0.006	0.018					
14	14	3/10/2000	7.28	99	5 U	0.17	0.158	0.937					
16	16	3/10/2000	7.09	40	64	0.191	0.177	0.429					
2	2	6/11/2000	7.64	54	12	0.229	0.301	1.82					
3	3	6/11/2000	7.65	15	8.2	0.144	0.109	0.485					
4	4	6/11/2000	7.75	11	5 U	0.101	0.008	0.039					
5	5	6/11/2000	7.6	11	5 U	0.031	0.032	0.197					
6	5	6/11/2000	7.98	13	5 U	0.018	0.003	0.01 U					
7	6	6/11/2000	8.16	5 U	5 U	0.014	0.011	0.038					
20	20	6/11/2000	8.45	8	5 U	0.01 U	0.006	0.017					
2	2	10/20/2000	7.31	13	9.6	0.03	0.019	0.287					
3	3	10/20/2000	8.2	82	10	0.554	0.441	2.3					
4	4	10/20/2000	7.11	30	5 U	0.296	0.02	0.088					

SCHN00152124

Outfall	New Drainage Basin	Date	pH	TSS	TPH	Copper	Lead	Zinc	Arsenic	Cadmium	Chromium	Mercury	Nickel
5	5	10/20/2000	8.39	206	5 U	0.24	0.375	1.51					
6	5	10/20/2000	8.3	880	5 U	2.6	0.23	0.688					
7	6	10/20/2000	7.75	8	5 U	0.014	0.015	0.048					
16	16	10/20/2000	7.18	64	5 U	0.09	0.094	0.342					
20	20	10/20/2000	6.95	16	5 U	0.01 U	0.003	0.024					
2	2	10/30/2001	7.04	14	5	0.081	0.153	1.04					
3	3	10/30/2001	7.19	10	5	0.099	0.07	0.252					
4	4	10/30/2001	7.94	5 U	5 U	0.045	0.014	0.04					
7	6	10/30/2001	8.1	36	5 U	0.034	0.059	0.231					
14	14	10/30/2001	7.67	156	5 U	0.193	0.286	1.23					
20	20	10/30/2001	8.23	28	5 U	0.018	0.028	0.057					
5A	5	10/30/2001	7.76	10	5 U	0.027	0.028	0.082					
2	2	5/22/2002	7.22	13	13	0.17	0.024	0.268					
3	3	5/22/2002	7.38	11	5 U	0.019	0.002 U	0.076					
7	6	5/22/2002	8.42	59	5 U	0.025	0.016	0.106					
16	16	5/22/2002	7.09	73	7.1	0.144	0.164	0.654					
5A	5	5/22/2002	7.91	5 U	5 U	0.013	0.002 U	0.015					
1	1	2/16/2003	7.23	14	6.9	0.071	0.096	0.46					
3	3	2/16/2003	7.42	106	17	0.18	0.206	1.56					
4	4	2/16/2003	8.23	5 U	5 U	0.24	0.0068	0.04					
6A	6	2/16/2003	7.34	5 U	5 U	0.01 U	0.004 U	0.01 U					
15	15	2/16/2003	7.68	34	5.1	0.06	0.067	0.225					
16	16	2/16/2003	8.2	45	5 U	0.071	0.114	0.427					
20	20	2/16/2003	8.44	7	5 U	0.01 U	0.0046	0.047					
5A	5	2/16/2003	8.44	8	5 U	0.04	0.0256	0.053					
3	3	6/20/2003	7.67	4	2 U	0.001 U	0.001 U	0.026					
4	4	6/20/2003	7.85	48	7	0.001 U	0.001 U	0.041					
14	14	6/20/2003	7.66	36	4	0.11	0.05	0.96					
20	20	6/20/2003	8.01	25	2	0.001 U	0.001 U	0.025					

SCHN00152125



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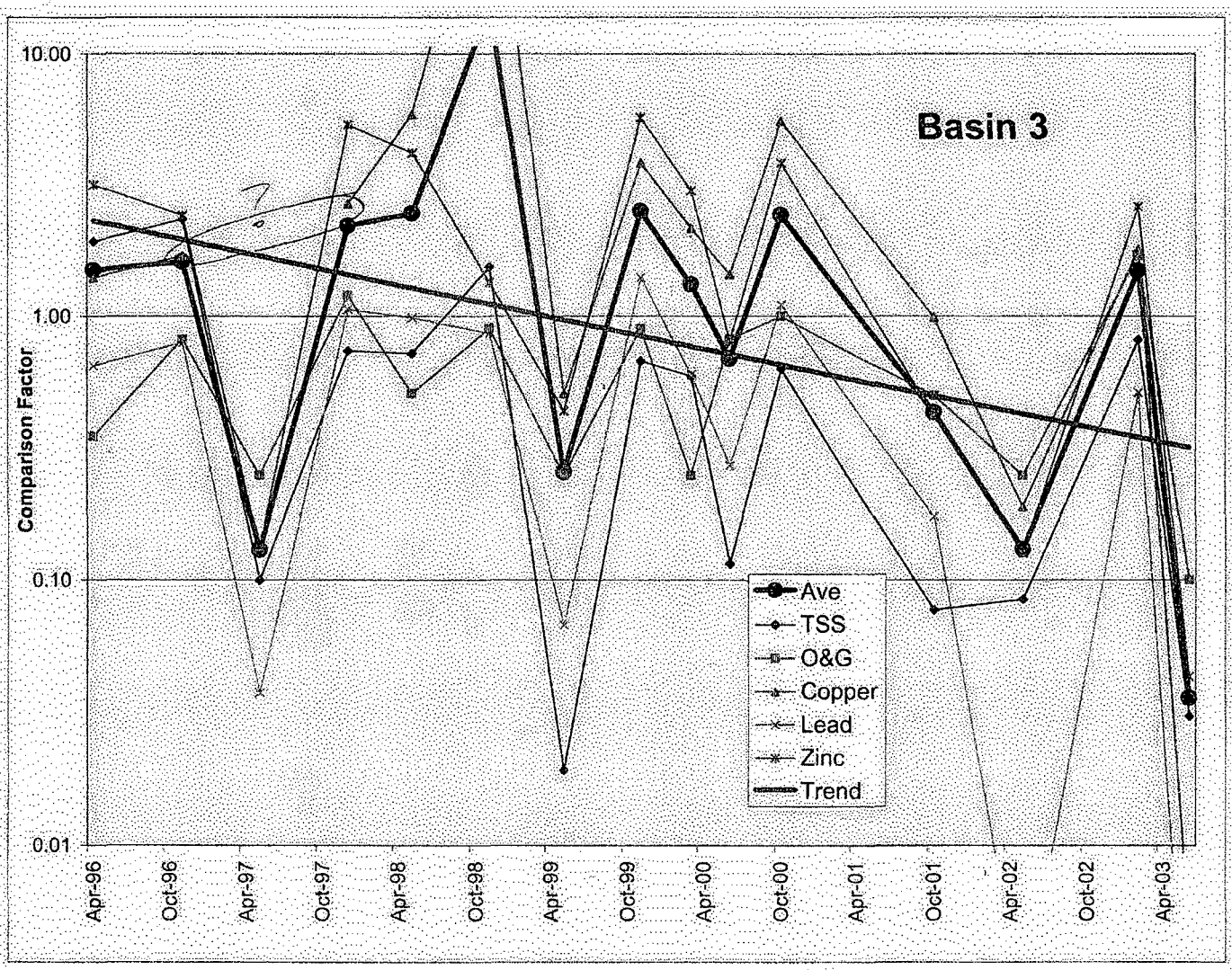

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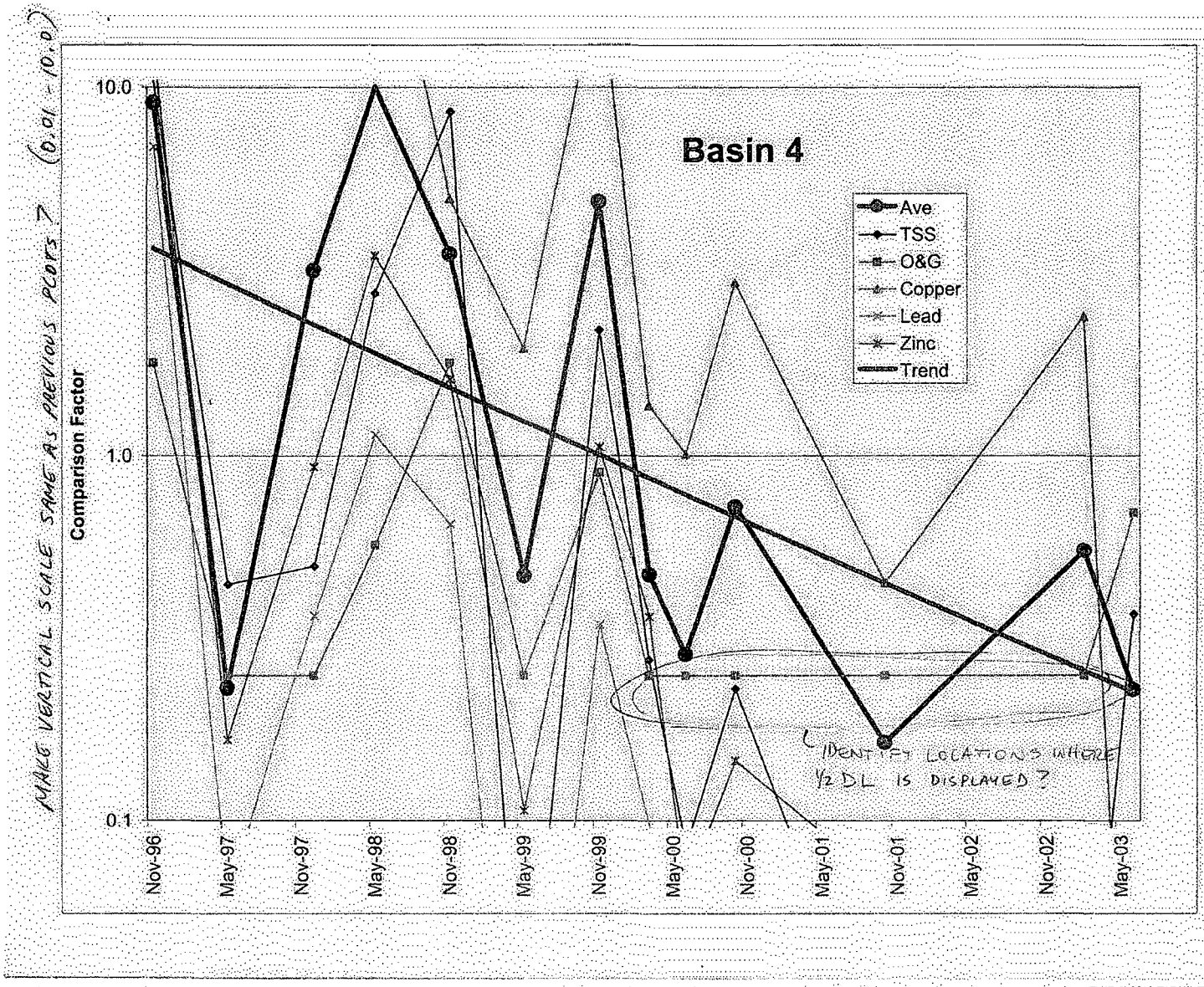

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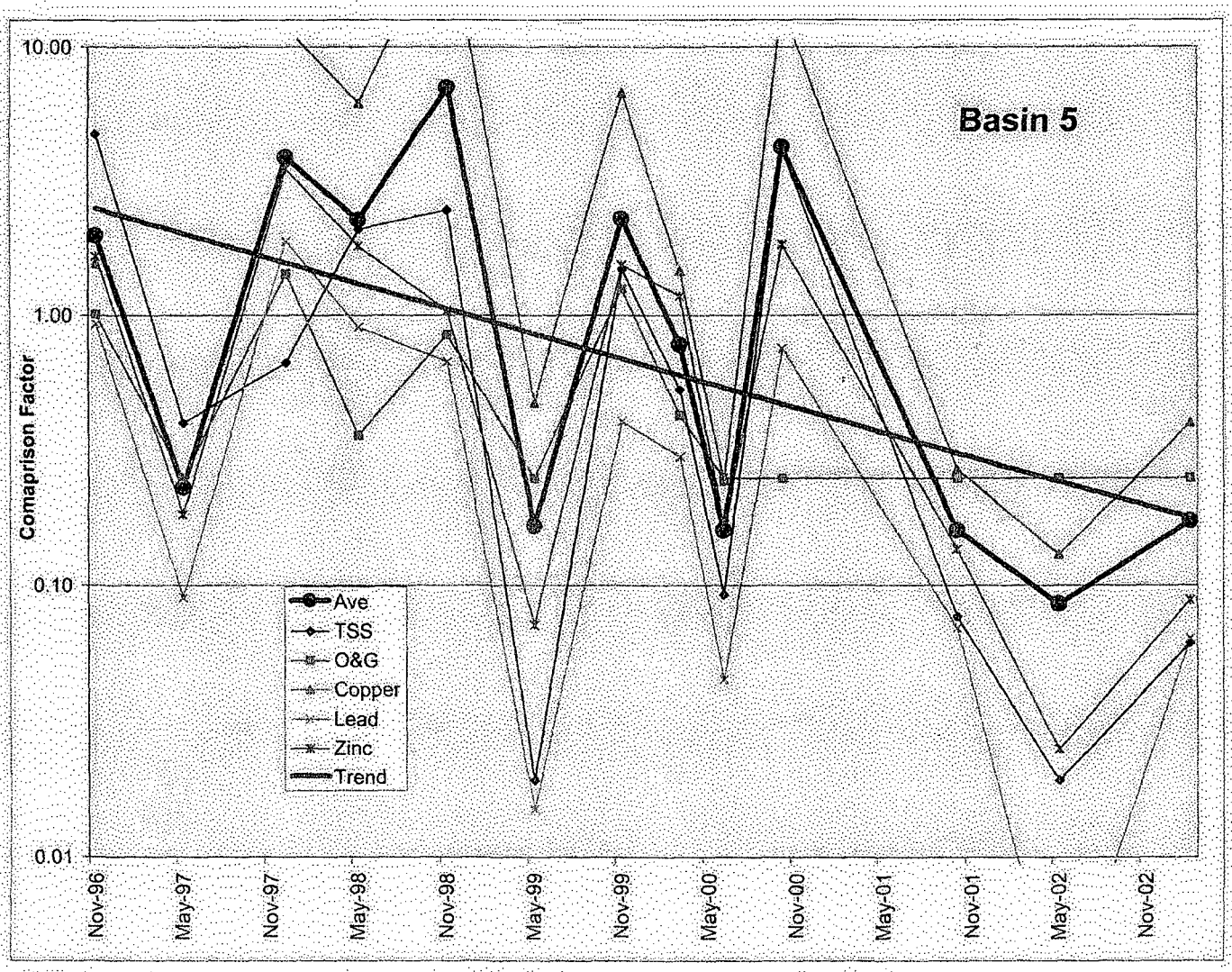

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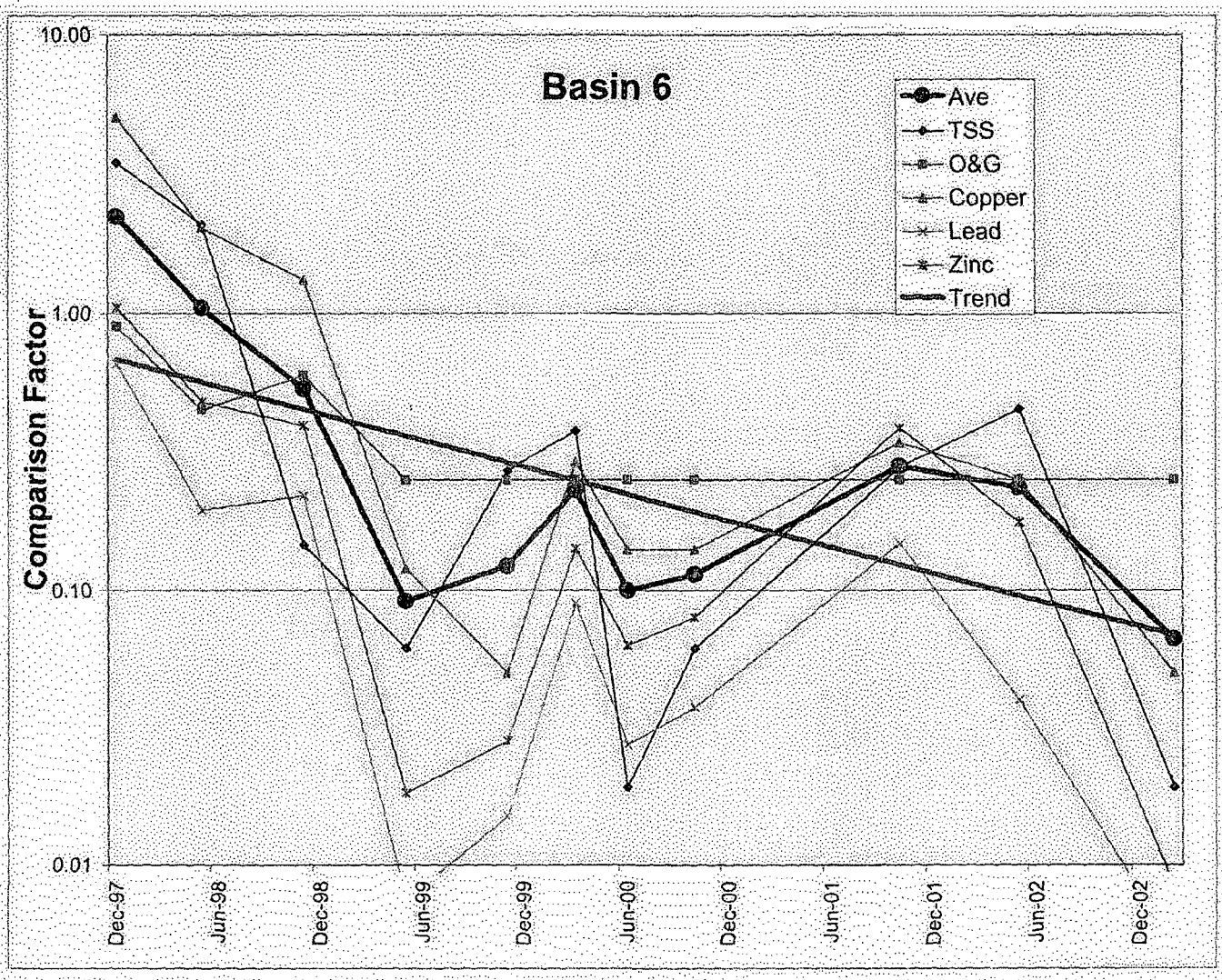

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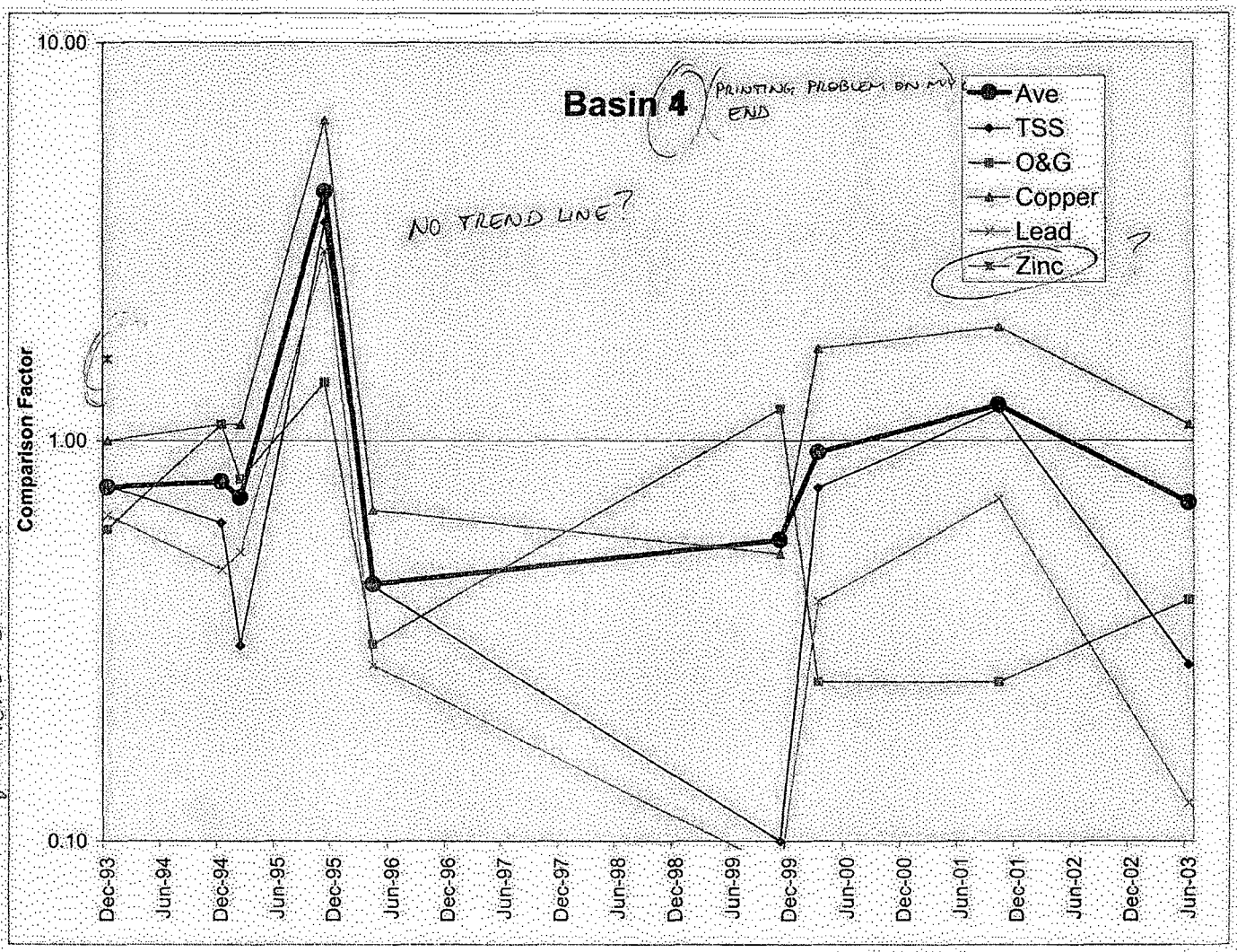

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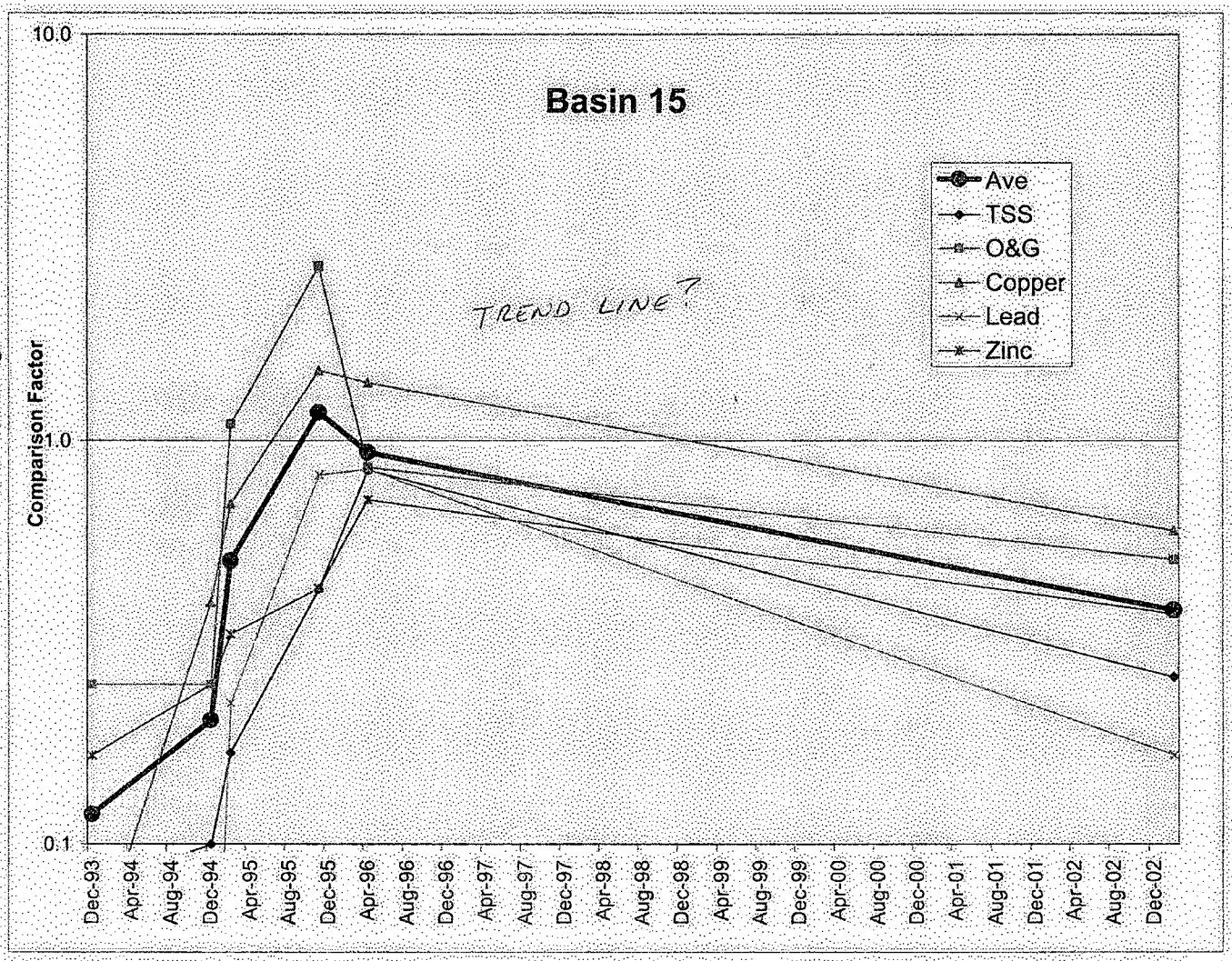

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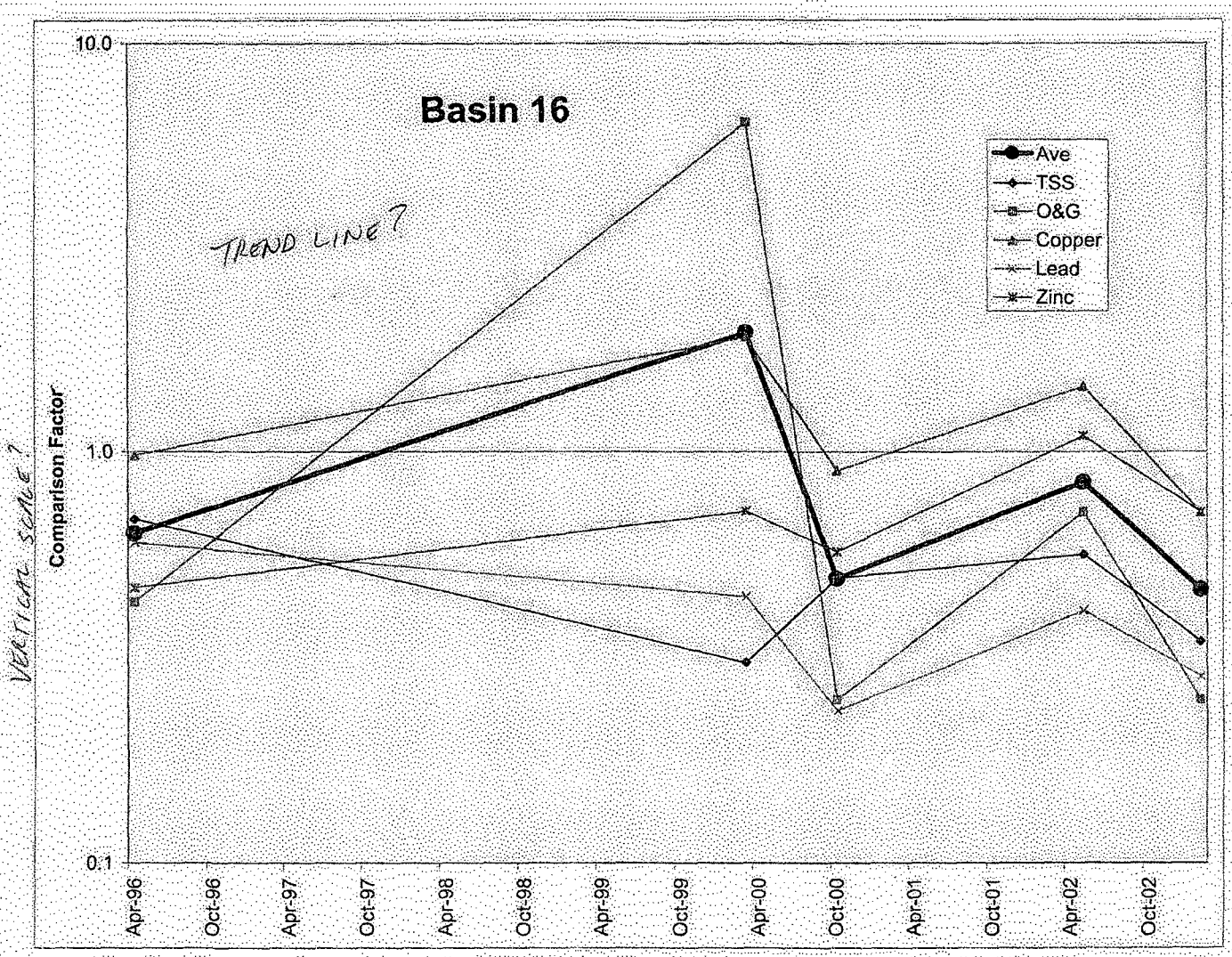

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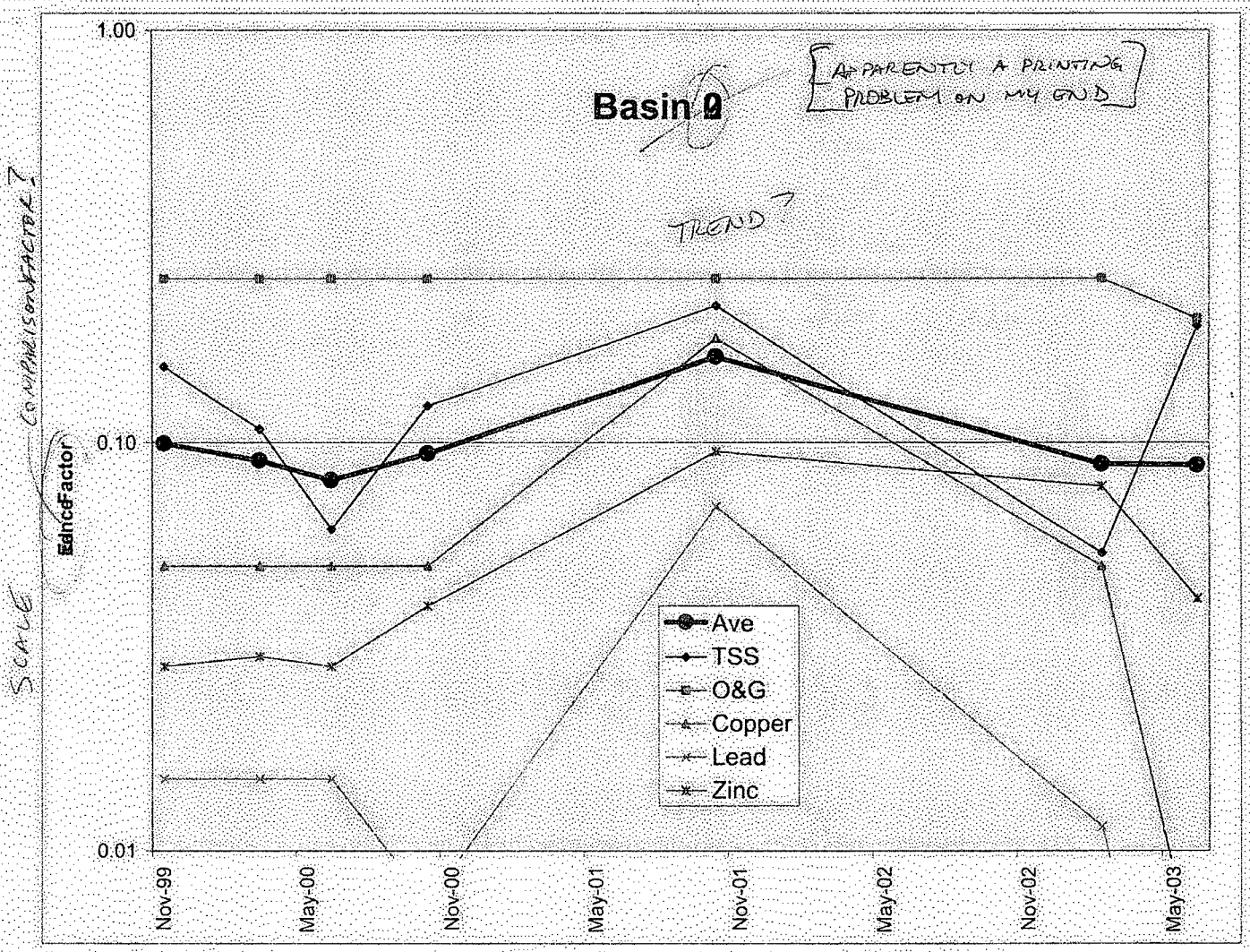

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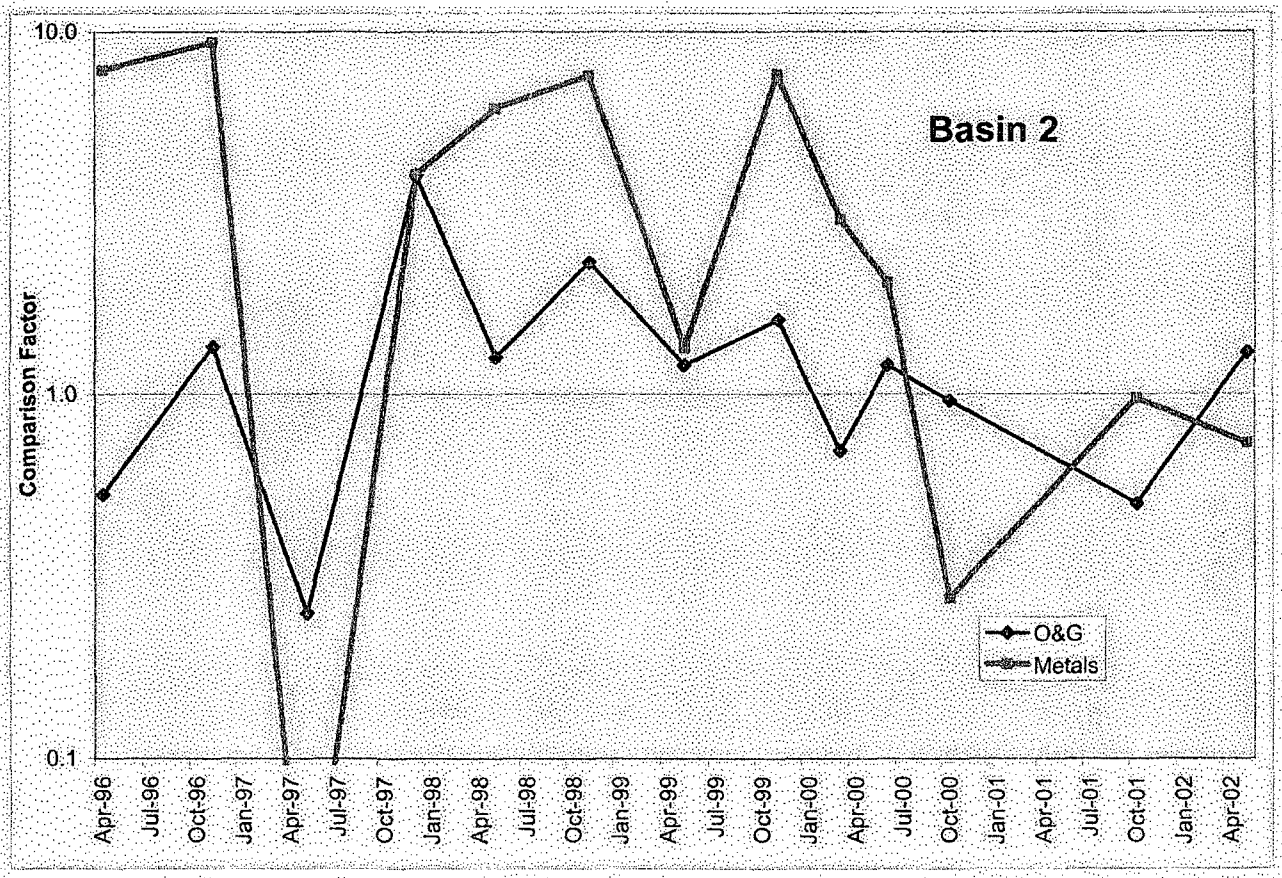
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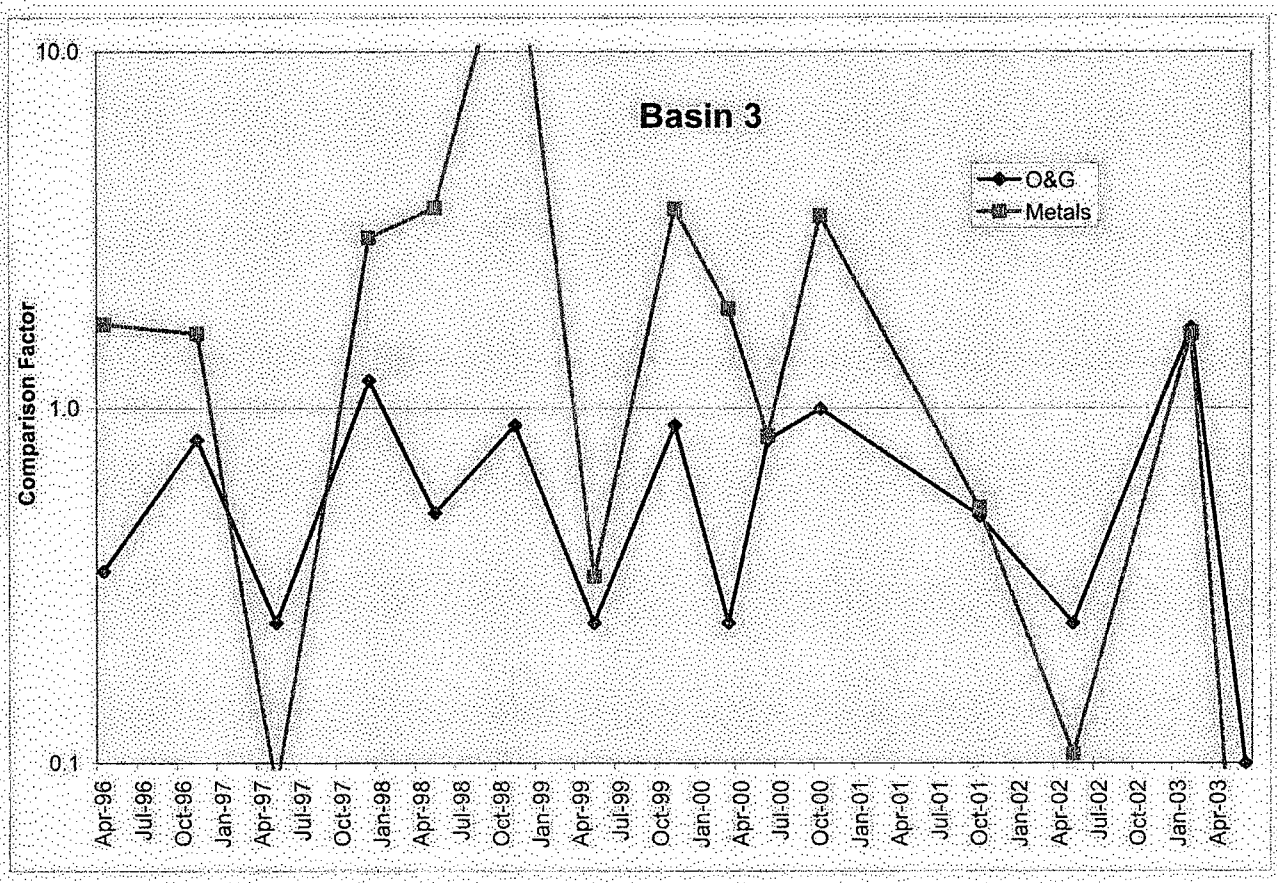
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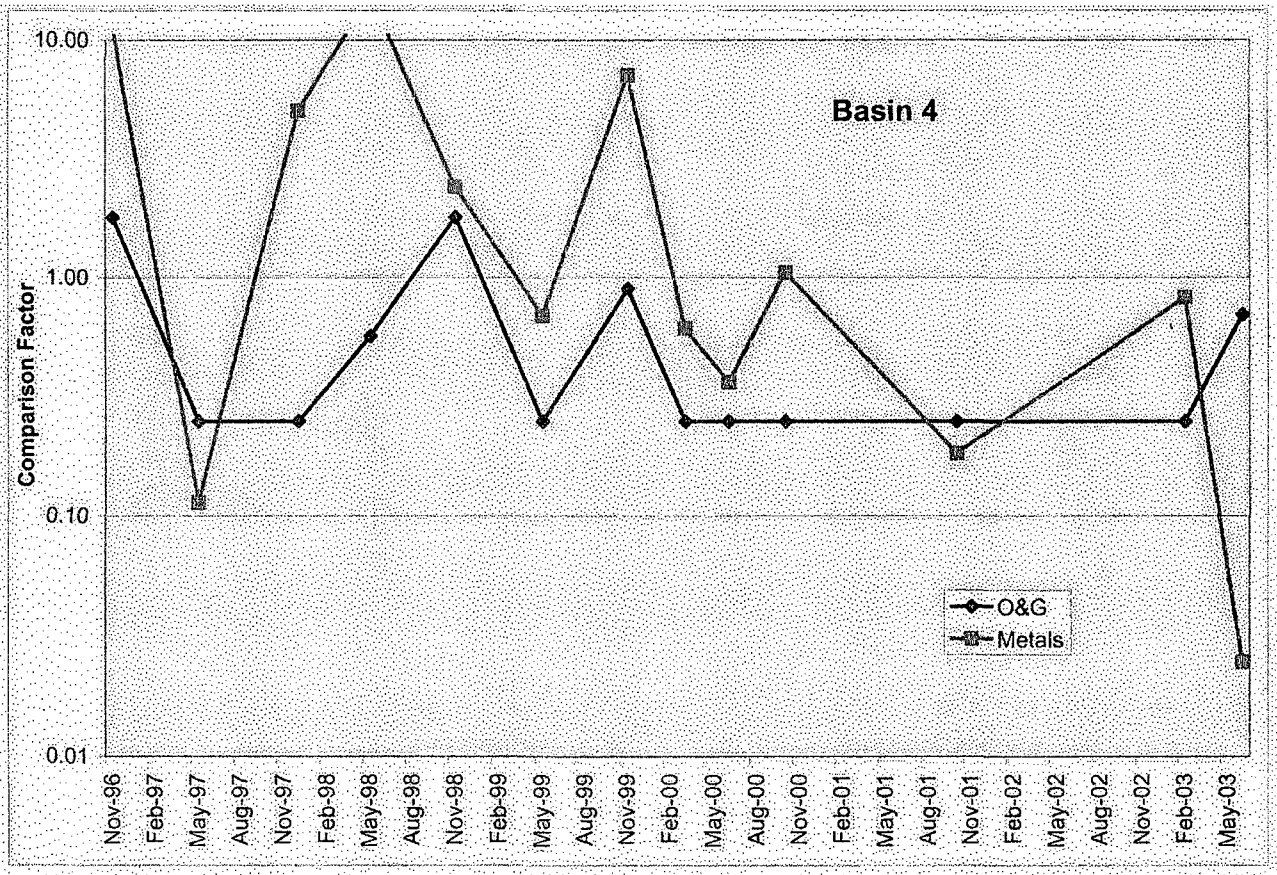

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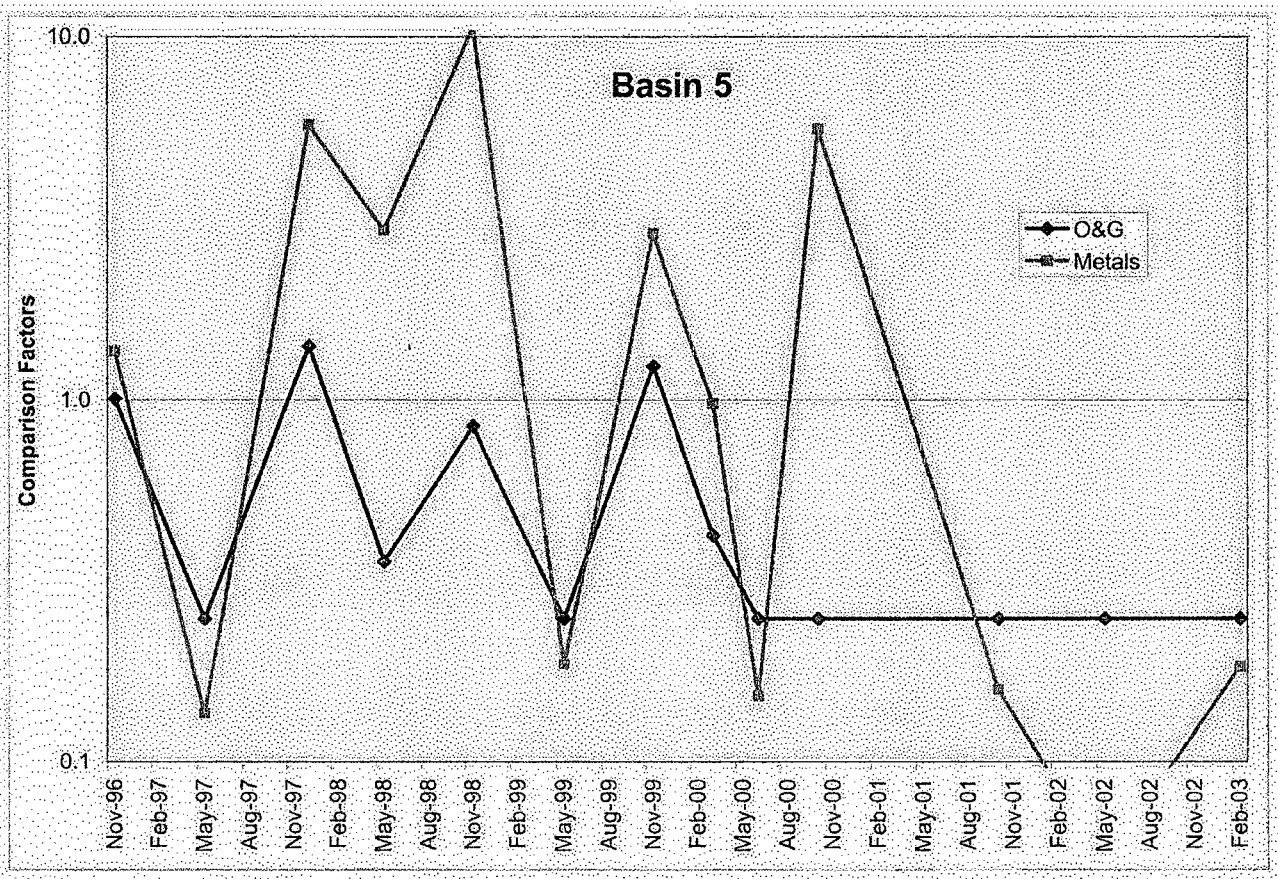
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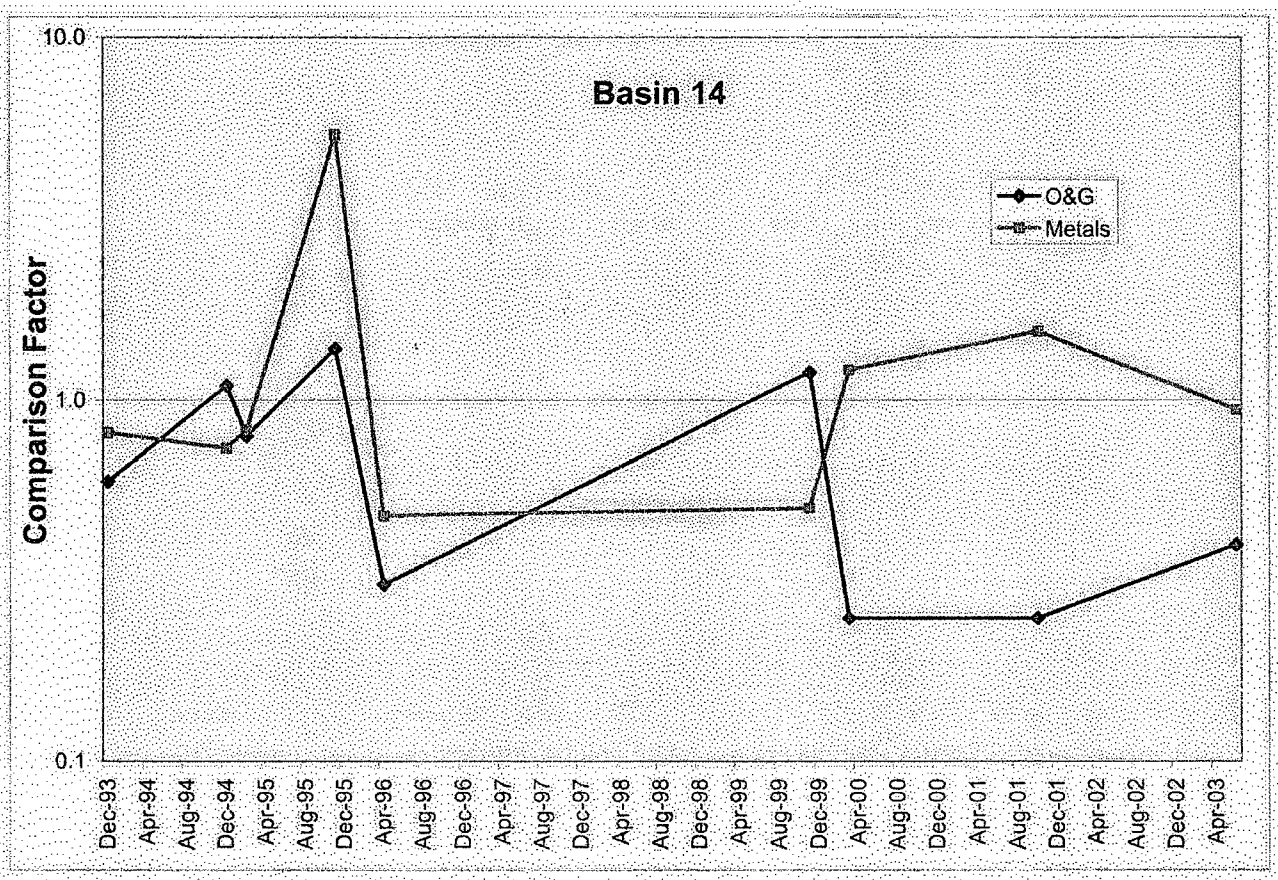
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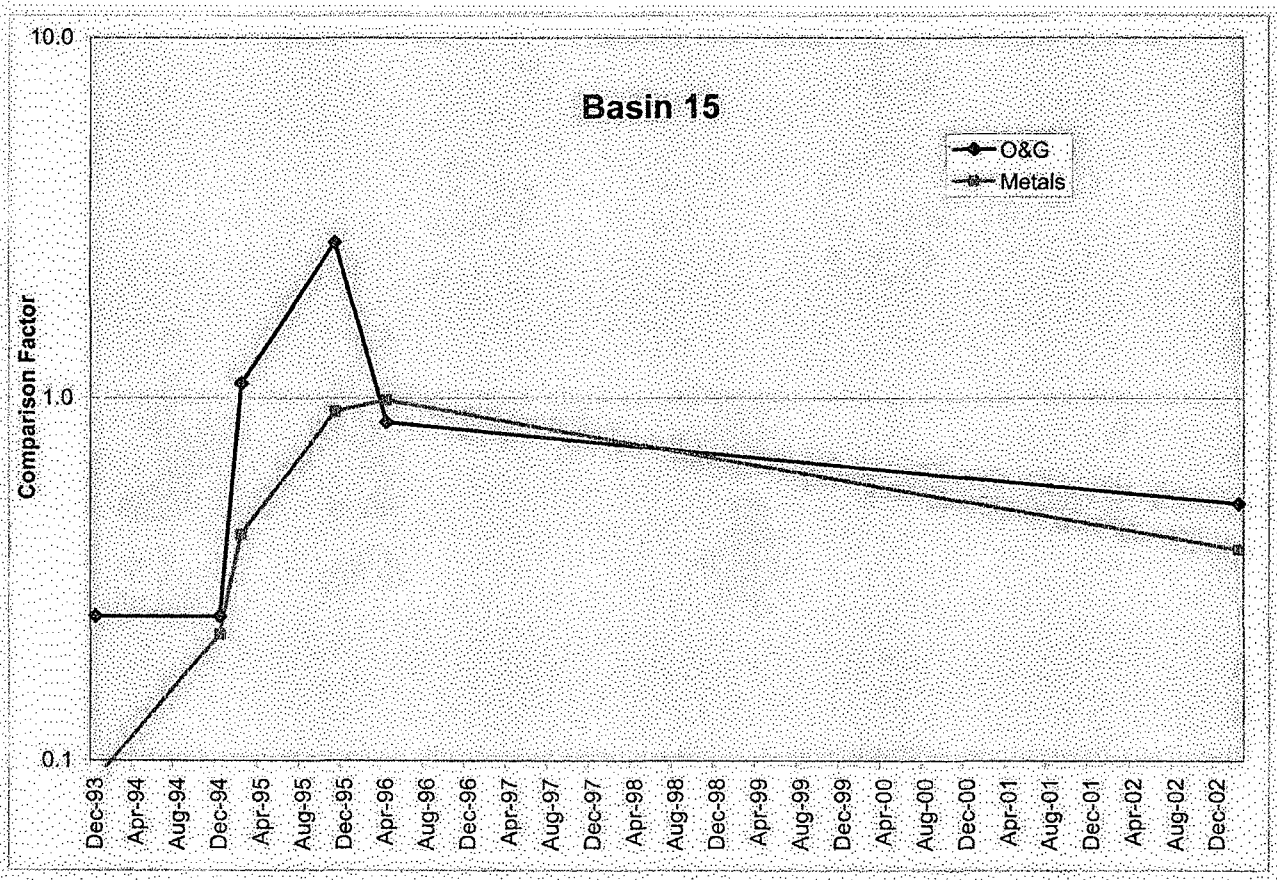
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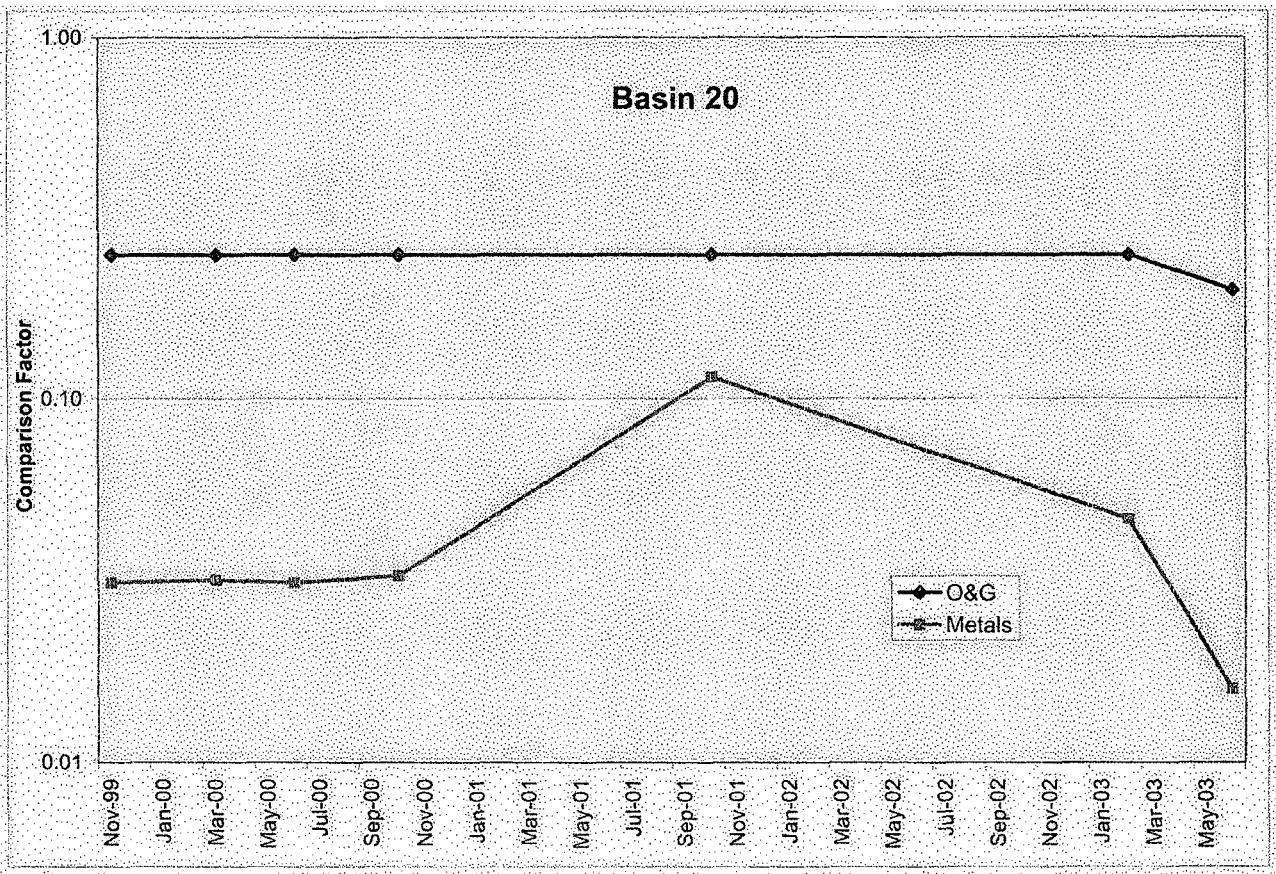
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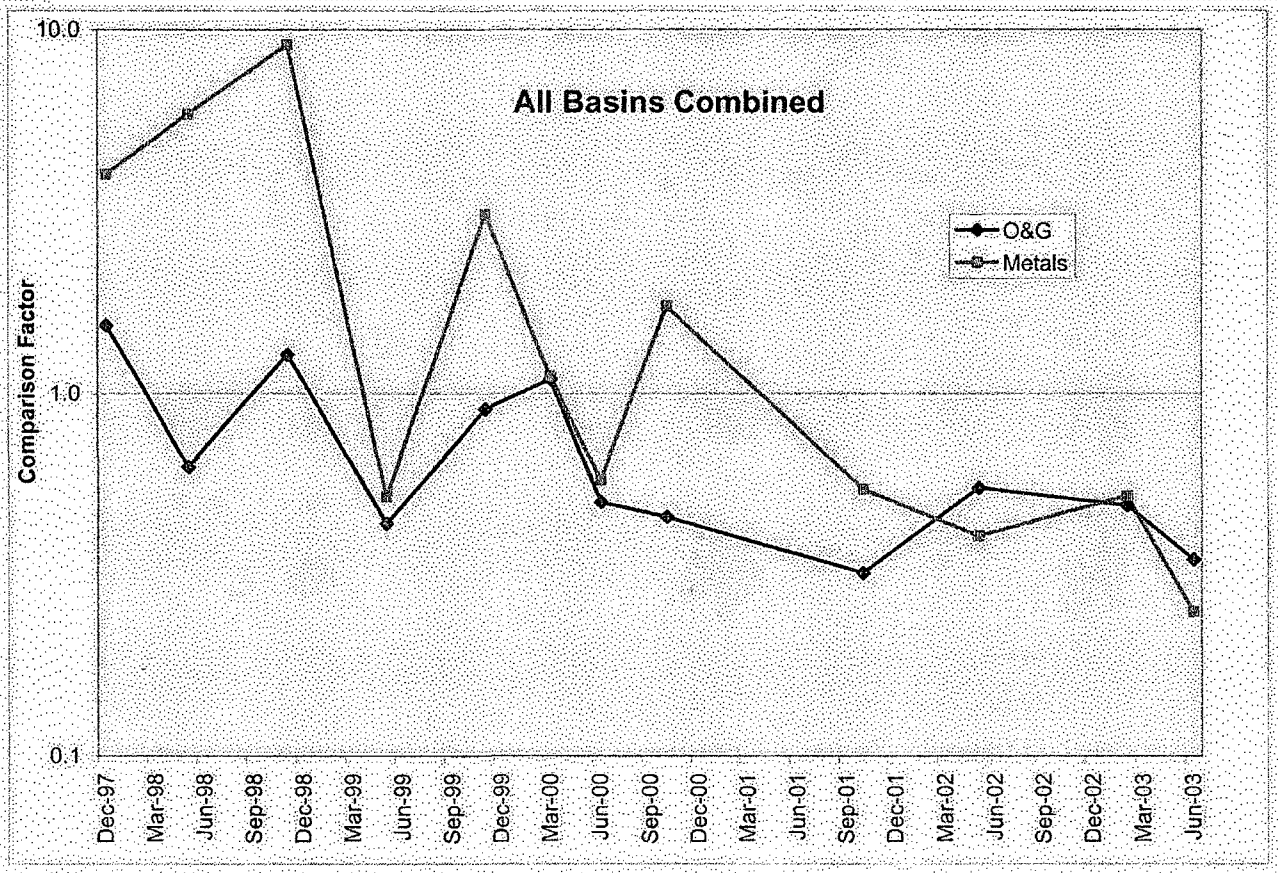

SCHN00152144

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rrieke@bridgeh2o.com

September 17, 2003

Ms. Alicia Voss
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Storm Water BMP Review and Assessment Report
Burgard Industrial Park

Dear Ms. Voss:

Enclosed please find three copies of the September 15, 2003, *Storm Water Best Management Practices Review and Assessment* for the Burgard Industrial Park site in Portland, Oregon. Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

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October 13, 2003

Ms. Alicia Voss
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
July through September 2003
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period July through September 2003 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed July through September 2003

- Prepared quarterly status report and submitted to DEQ on July 7, 2003.
- Submitted *Storm Water BMP Review and Assessment Report,* to DEQ on September 15, 2003.
- Sampled monitoring wells MW-03 and MW-07 on September 21, 2003 as part of the semi-annual groundwater monitoring. Other monitoring wells were not sampled due to low water levels.
- Email correspondence with DEQ on September 22, 2003 regarding reducing the analytes for the groundwater monitoring event.
- Email correspondence with DEQ on September 23, 2003 regarding schedule for sampling wells not sampled on September 21, 2003 due to low water levels.

Activities Planned October through December 2003

- Collecting groundwater samples from wells not sampled on September 21, 2003 due to low water levels.
- Measuring groundwater levels in all monitoring wells in December.
- Submitting groundwater monitoring report for semi-annual groundwater sampling event.
- Meet with DEQ and discuss BMP review and assessment report and next steps for *Enhanced Best Management Practice* program.
- Begin to identify and assess potential additional BMPs, if necessary.

- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated July through September 2003

Sampling, test results, and other data generated during July through September were, or will be, presented in project deliverables submitted to DEQ.

Problems Experienced July through September 2003

No problems other than those documented above were encountered during July through September 2003.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

Table 3
Concentrations in Groundwater Samples
Total Metals
Burgard Industrial Park
All results in ug/l

Probe/ Well	Location	Date	Total Antimony	Total Arsenic	Total Barium	Total Cadmium	Total Chromium	Total Copper	Total Lead	Ttotal Mercury	Total Nickel	Total Zinc
MW01	*Former NW Oil Tanks*	1/28/2002	-	-	-	-	-	-	-	-	-	-
MW02	Shoreline, north end of site	1/28/2002	1.0 U	1.07	23.3	1.0 U	1.96	2.0 U	1.0 U	0.2 U	2.0 U	10.6
MW03	Shoreline, middle of site	1/27/2002	1.0 U	30.8	148	1.0 U	1.61	2.0 U	1.0 U	0.20	5.78	7.1
		4/14/2002	-	-	-	-	-	-	-	-	-	-
		3/23/2003	1.0 U	41.1	159	1.0 U	10.3	24.6	12.2	0.23	13.6	46.6
		4/28/2003	-	-	-	-	-	-	-	-	-	-
		9/21/2003	-	44.5	-	-	27.7	36	22.1	0.24	-	-
MW04	Shoreline, middle of site	1/27/2002	1.0 U	1.92	47.2	1.0 U	1.30	2.0 U	1.0 U	0.2 U	12.3	5.2
MW05	Shoreline, south end of site	1/27/2002	1.0 U	1.0 U	13.0	1.0 U	1.57	2.3	1.0 U	0.2 U	2.3	11.2
MW06	Outfall 1 plug area	1/28/2002	1.0 U	1.0 U	33.1	1.0 U	1.61	2.0 U	1.0 U	0.2 U	8.6	8.8
MW07	Southeast area	1/28/2002	1.0 U	1.20	64.7	1.0 U	1.83	2.0 U	1.0 U	0.2 U	4.9	5.0 U
		4/14/2002	-	-	-	-	-	-	-	-	-	-
		3/23/2003	1.0 U	3.18	106	1.0 U	5.33	9.24	3.53	0.2 U	6.42	20.8
		9/21/2003	-	4.43	-	-	10.8	13.3	0.46	0.2 U	-	-
EPA Ambient Water Quality Criteria			4300	0.14				1300		0.05	4600	69000
DEQ Level II Surface Water SLV			1600	150		2.2	0.21	9	2.5	0.77	52	120

U - Not detected at noted reporting limit
"-" - Not analyzed
Samples with total metal concentrations greater than EPA ambient water quality critiera or DEQ surface water SLV analyzed for dissolved metals.

SCHN00152155

AFFIDAVIT OF MATTHEW CUSMA

RE UNREIMBURSED COSTS FOR PORTLAND HARBOR SUPERFUND SITE

STATE OF OREGON)

County of Multnomah)

I, Mathew Cusma, being first duly sworn, do hereby depose and say:

1. I am the Environmental Administrator for Schnitzer Steel Industries, Inc. ("Schnitzer"). The facts in this affidavit are based upon my personal knowledge and are true and correct to my best knowledge and belief.

2. On November 24, 1999, the Oregon Department of Environmental Quality ("DEQ") notified Schnitzer Investment Corp. ("SIC") that the SIC property located at 12005 N. Burgard Road in Portland, Oregon (the "International Terminal Site"), on which SIC and predecessor companies have conducted operations, is a high priority for a Remedial Investigation and Feasibility Study ("RI/FS"). My responsibilities at Schnitzer include oversight of the International Terminal Site. Attached as Exhibit A is a true and correct copy of the November 24, 1999 letter from DEQ. DEQ proposed that the RI/FS be governed by an agreement in the form of a Voluntary Cleanup Agreement ("VCA"). SIC entered into the VCA with DEQ on June 13, 2000.

3. Pursuant to the VCA and the Scope of Work as approved by DEQ, SIC, working with its environmental consultant Bridgewater, is performing the remedial investigation at the International Terminal Site. Schnitzer has submitted invoices for the costs of this action to its insurers, ACE-USA ("ACE"), CNA Insurance Company ("CNA"), and Employer's Insurance of Wausau ("Wausau").

4. It is my understanding that certain invoices and/or portions of invoices have not been paid by insurers for costs related to a specific part of the Scope of Work, the Storm Water System Assessment, because the insurers claim that these costs are indemnity costs, and not

defense costs. Attached as Exhibit B are true and correct copies of the invoices that as of today remain partially or completely unreimbursed by SIC's insurers because they contain costs for the Storm Water System Assessment. These are Schnitzer business records maintained in the ordinary course of business at the offices of Schnitzer. Attached as Exhibit C is a true and correct copy of a correspondence from Wausau stating that the carrier group, consisting of ACE, CNA, and Wausau, will not pay costs related to the Storm Water System Assessment. These are Schnitzer business records maintained in the ordinary course of business at the offices of Schnitzer.

5. I declare under penalty of perjury pursuant to the laws of the State of Oregon to the best of my information and belief that the foregoing is true and correct. Executed this 20 day of August, 2003 in Portland, Oregon.

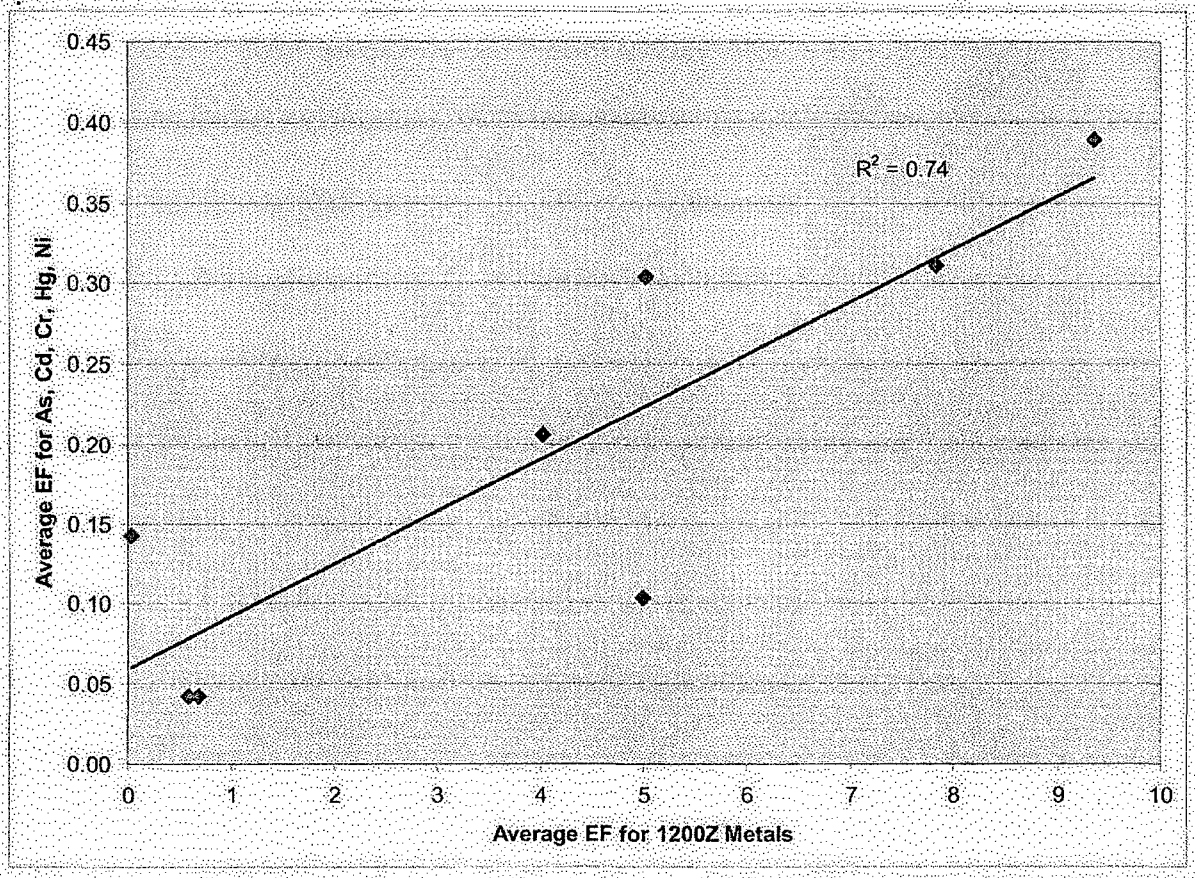
Mathew Cusma

SUBSCRIBED AND SWORN TO before me this 20 day of August, 2003.

OFFICIAL SEAL
GLORIA CHRISTIAN
NOTARY PUBLIC-OREGON
COMMISSION NO. 344332
MY COMMISSION EXPIRES MAR. 27, 2005

Notary Public, my commission expires Mar. 27, 2005 Gloria Christian 8/20/03

Portlnd3-1452762.1 0068163-00035



$$\text{Exceedance Factor (EF)} = \frac{\text{Measured Concentration}}{\text{Storm Water Permit Benchmark}}$$

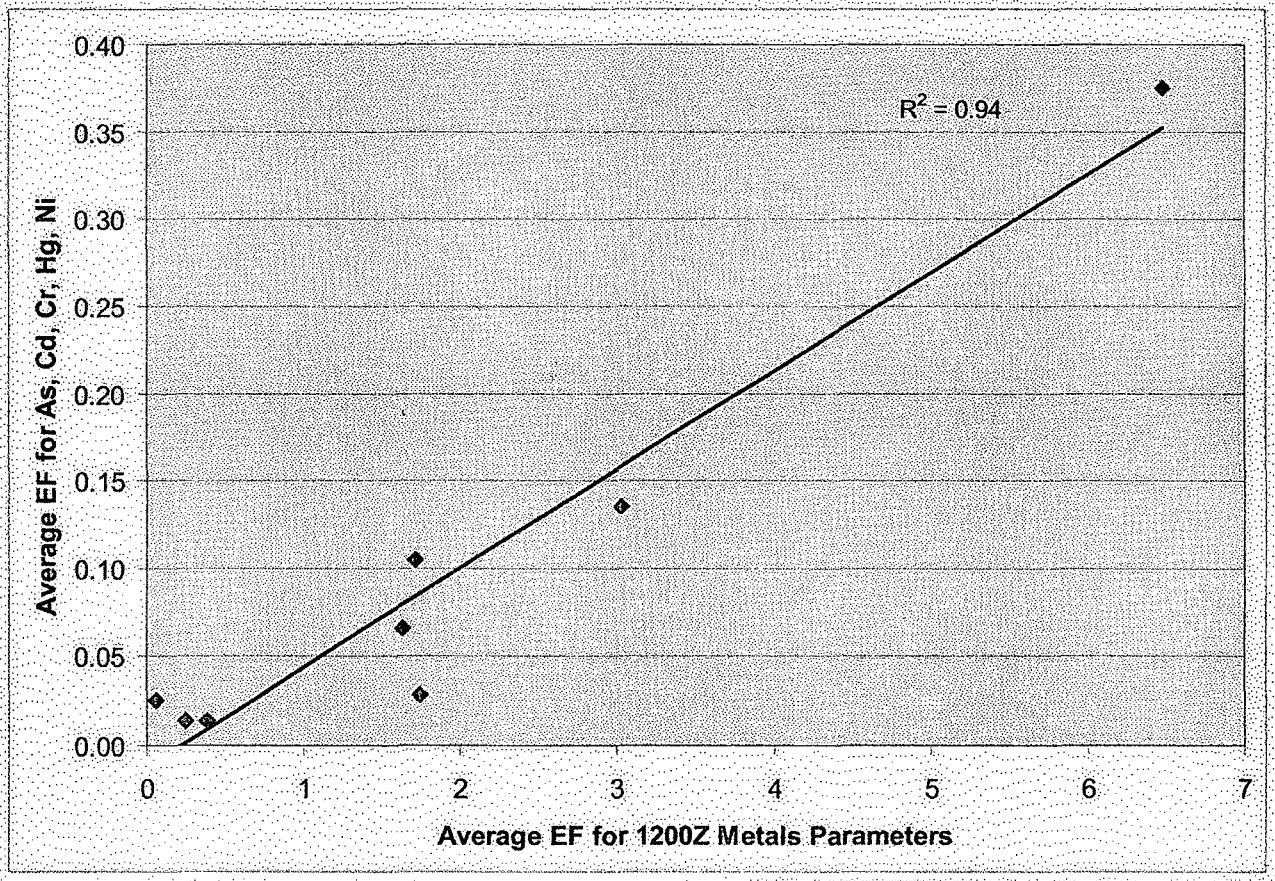
Exceedance value shown is average value for monitored metals

Figure __

Basin 2 Storm Water Benchmark Exceedance Factors
Correlation Between Early and Current Metals
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152187



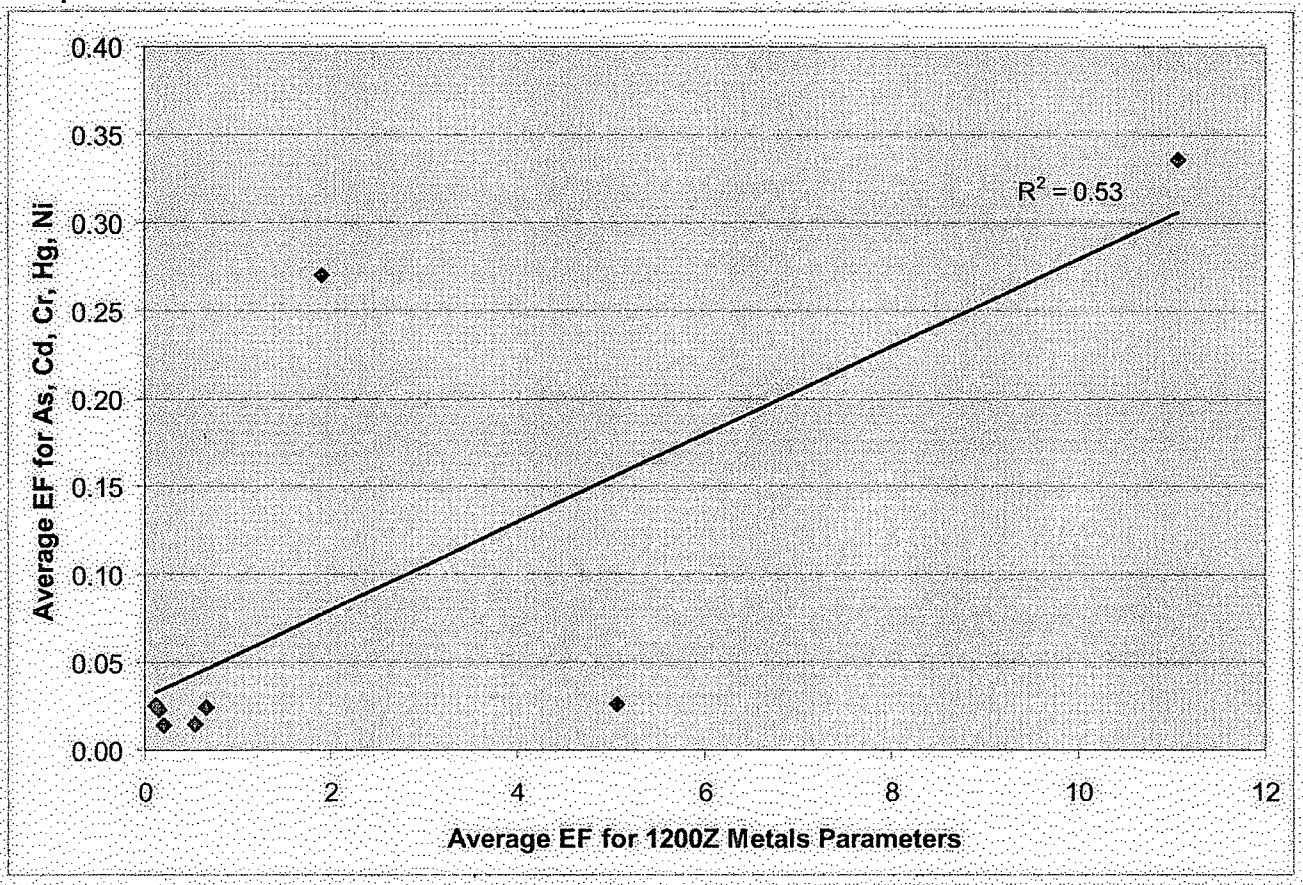
Exceedance Factor (EF) = $\frac{\text{Measured Concentration}}{\text{Storm Water Permit Benchmark}}$

Exceedance value shown is average value for monitored metals

Figure __
Basin 3 Storm Water Benchmark Exceedance Factors
Correlation Between Early and Current Metals
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152188



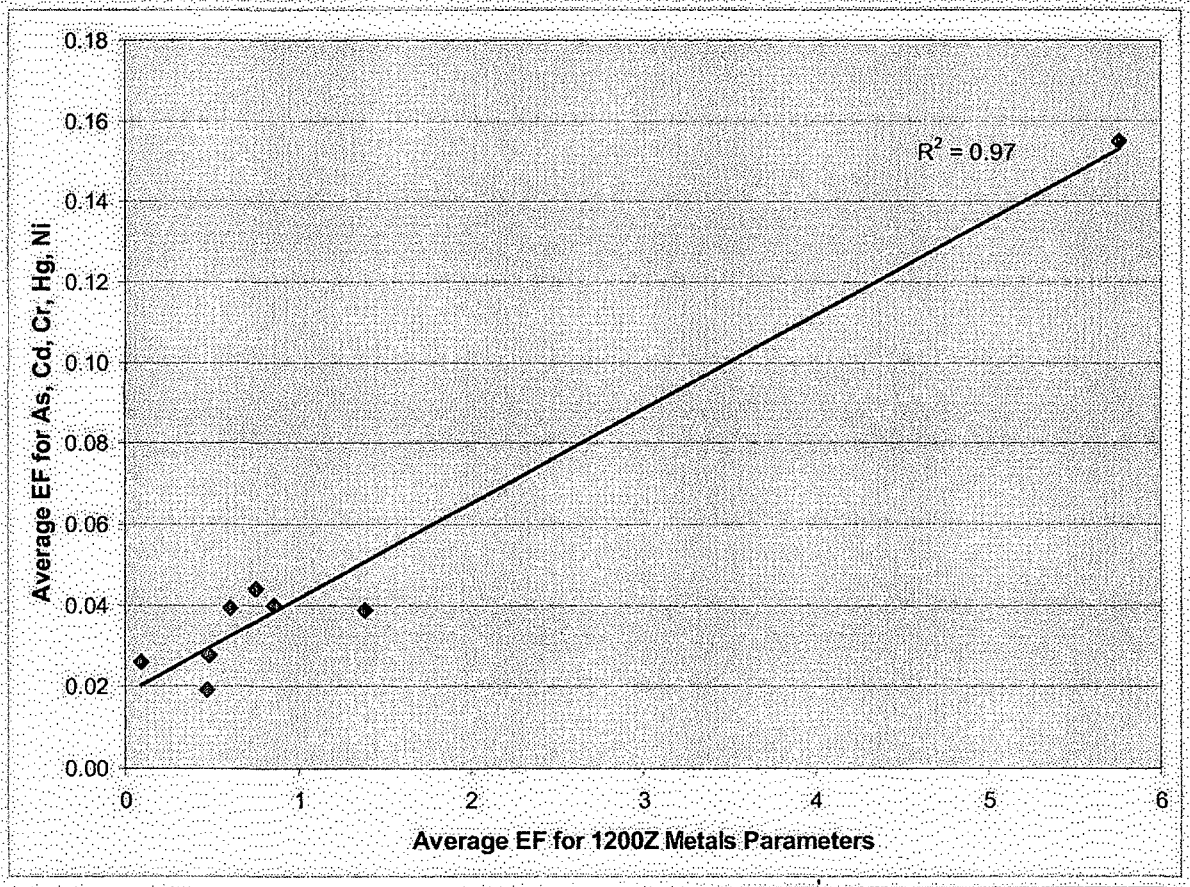
$$\text{Exceedance Factor (EF)} = \frac{\text{Measured Concentration}}{\text{Storm Water Permit Benchmark}}$$

Exceedance value shown is average value for monitored metals

Figure __
Basin 4 Storm Water Benchmark Exceedance Factors
Correlation Between Early and Current Metals
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152189



Exceedance Factor (EF) = $\frac{\text{Measured Concentration}}{\text{Storm Water Permit Benchmark}}$

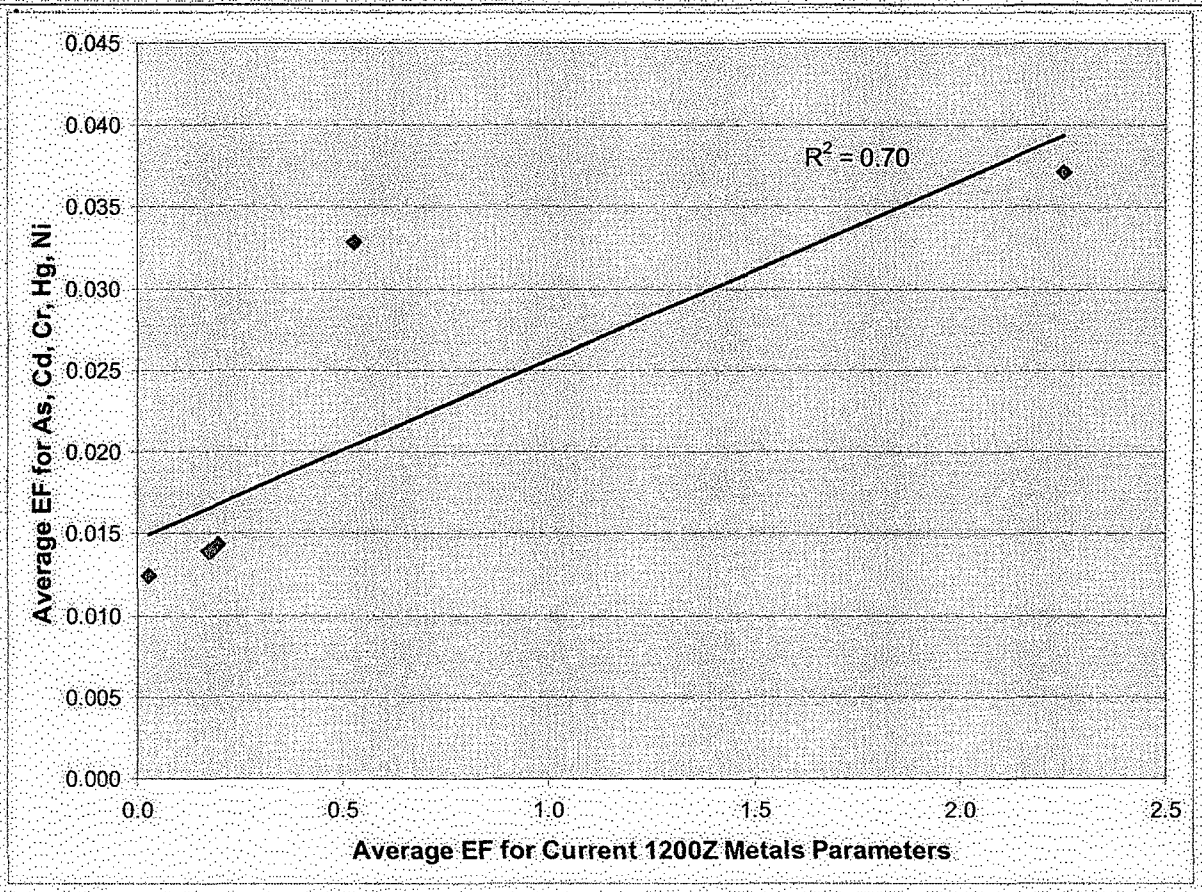
Exceedance value shown is average value for monitored metals

Figure __

Basin 5 Storm Water Benchmark Exceedance Factors
Correlation Between Early and Current Metals
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152190



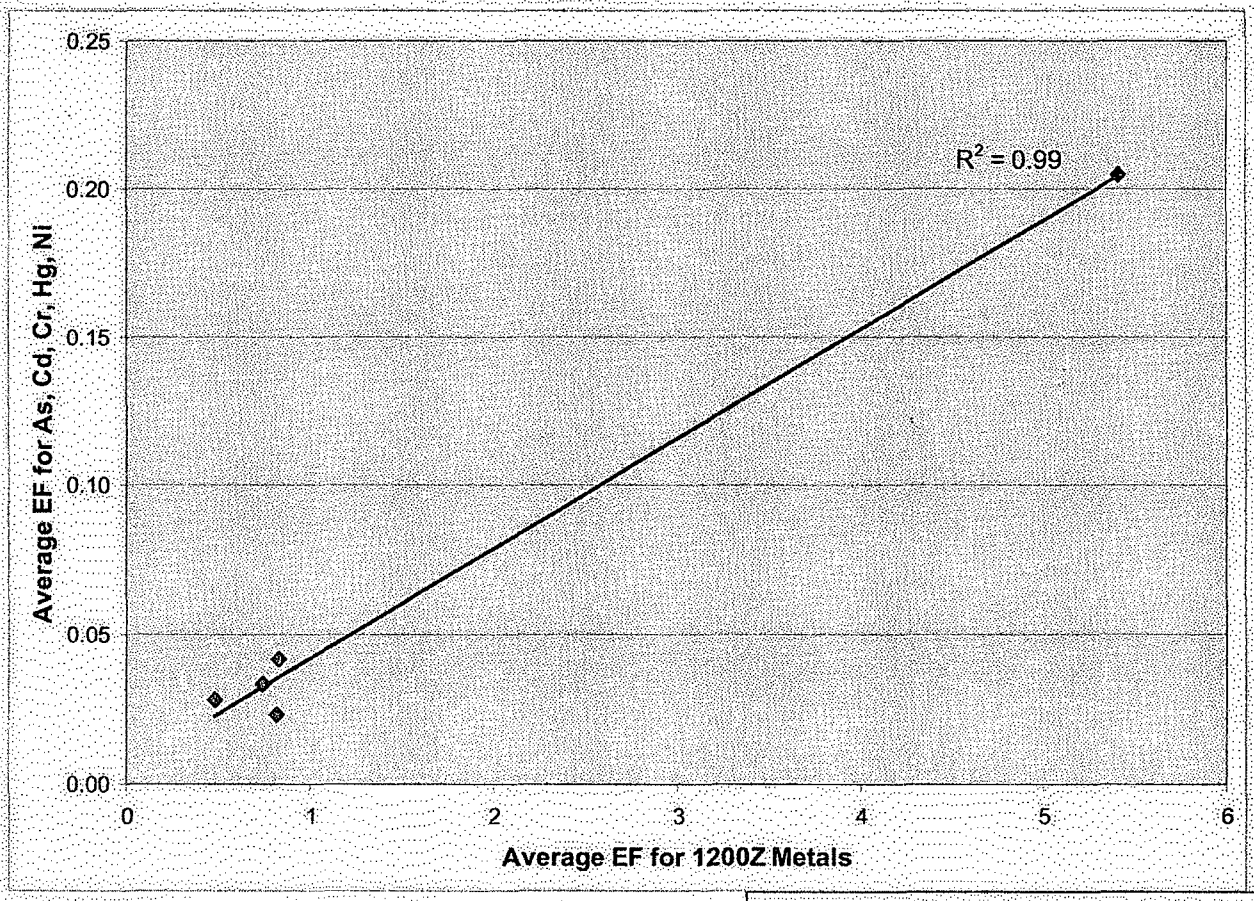
$$\text{Exceedance Factor (EF)} = \frac{\text{Measured Concentration}}{\text{Storm Water Permit Benchmark}}$$

Exceedance value shown is average value for monitored metals

Figure __

Basin 6 Storm Water Benchmark Exceedance Factors
Correlation Between Early and Current Metals
Burgard Industrial Park

BRIDGEWATER GROUP, INC.



$$\text{Exceedance Factor (EF)} = \frac{\text{Measured Concentration}}{\text{Storm Water Permit Benchmark}}$$

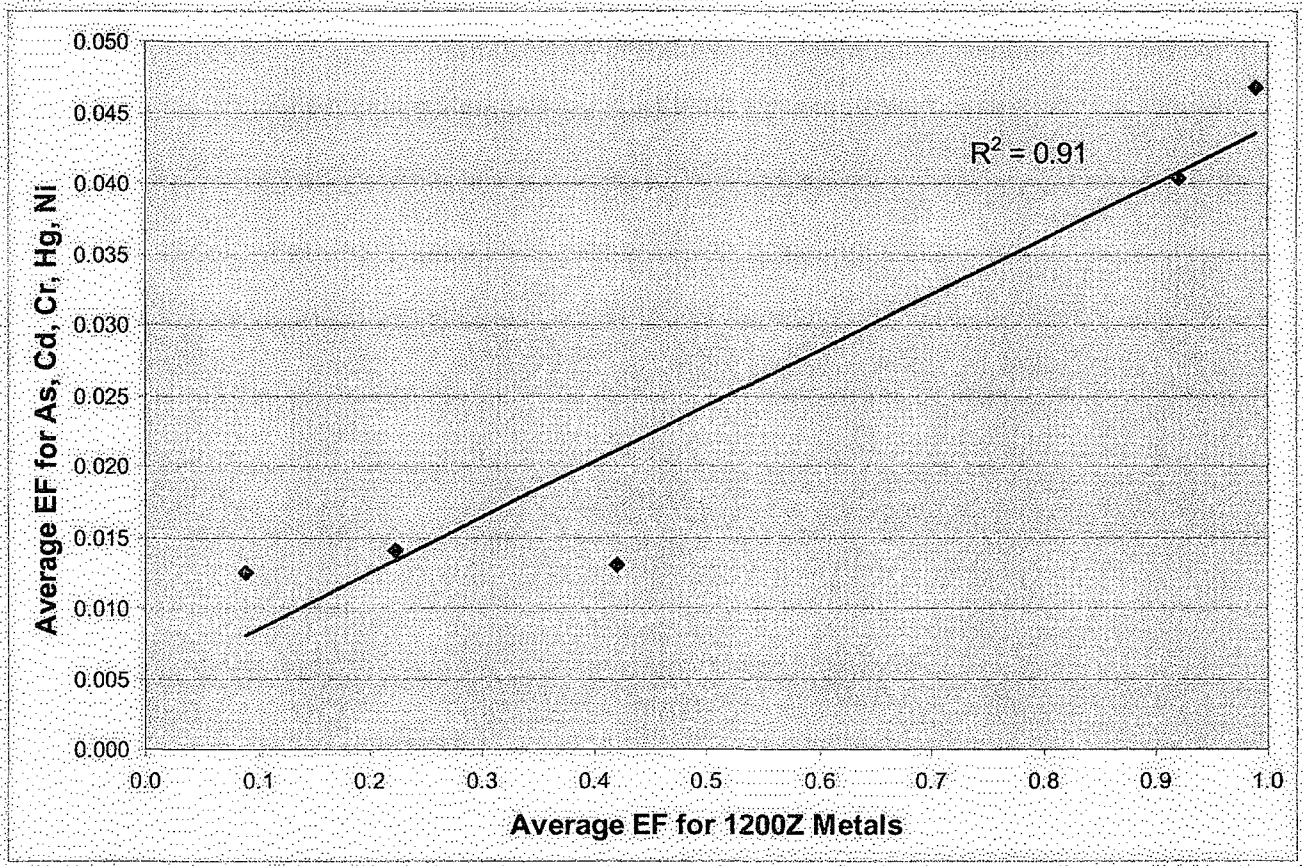
Exceedance value shown is average value for monitored metals

Figure __

Basin 14 Storm Water Benchmark Exceedance Factors
Correlation Between Early and Current Metals
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152192



$$\text{Exceedance Factor (EF)} = \frac{\text{Measured Concentration}}{\text{Storm Water Permit Benchmark}}$$

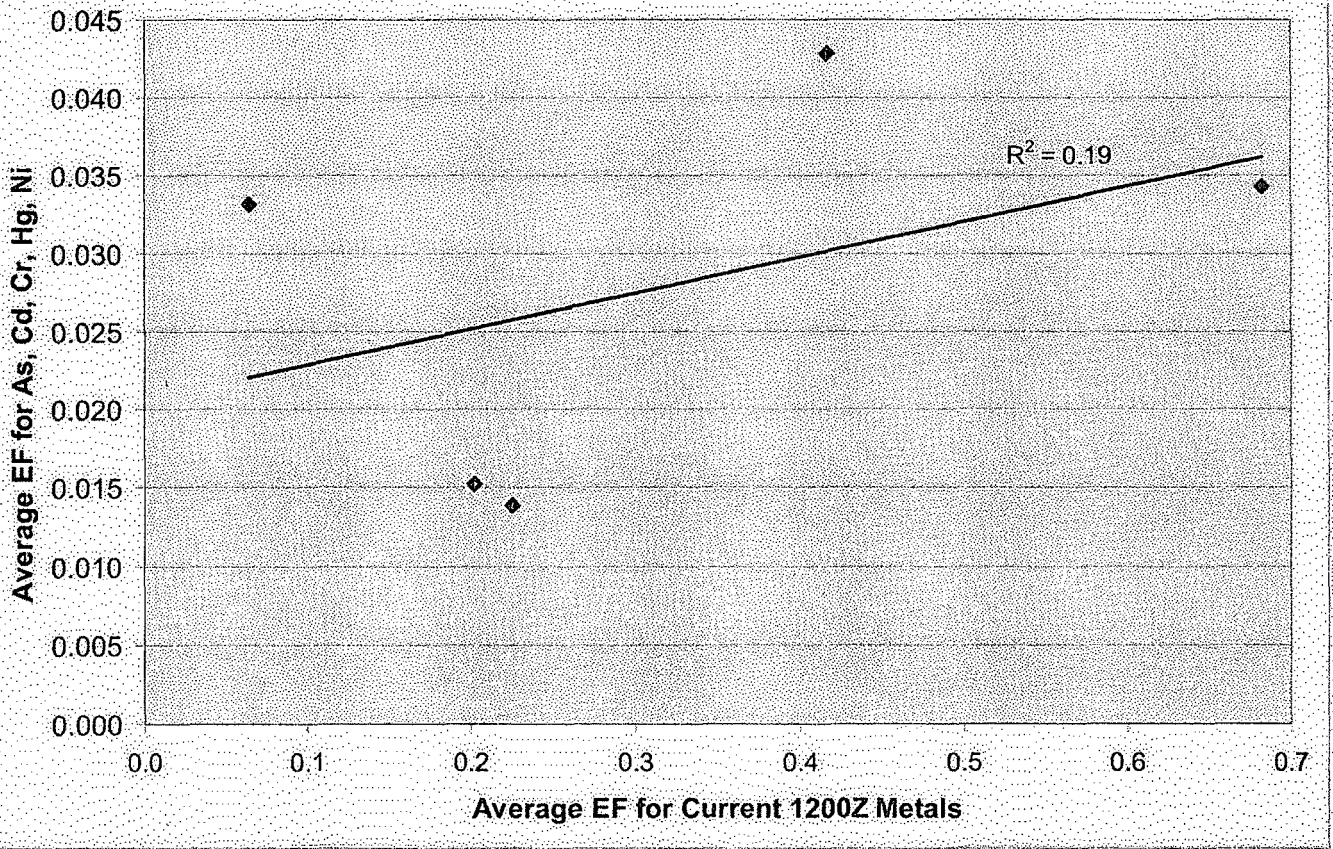
Exceedance value shown is average value for monitored metals

Figure __

Basin 15 Storm Water Benchmark Exceedance Factors
Correlation Between Early and Current Metals
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152193



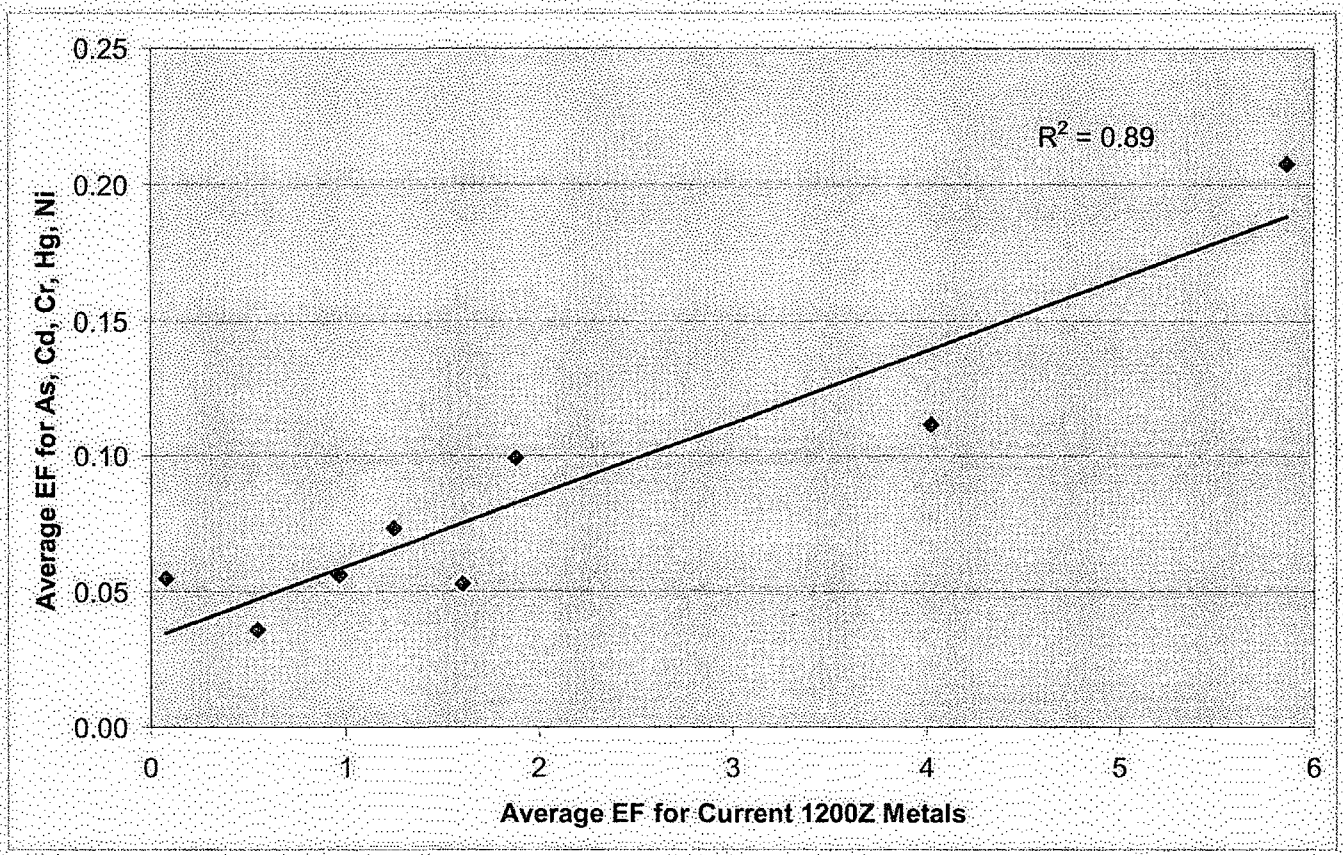
$$\text{Exceedance Factor (EF)} = \frac{\text{Measured Concentration}}{\text{Storm Water Permit Benchmark}}$$

Exceedance value shown is average value for monitored metals

Figure __
Basin 16 Storm Water Benchmark Exceedance Factors
Correlation Between Early and Current Metals
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152194



Exceedance Factor (EF) = $\frac{\text{Measured Concentration}}{\text{Storm Water Permit Benchmark}}$

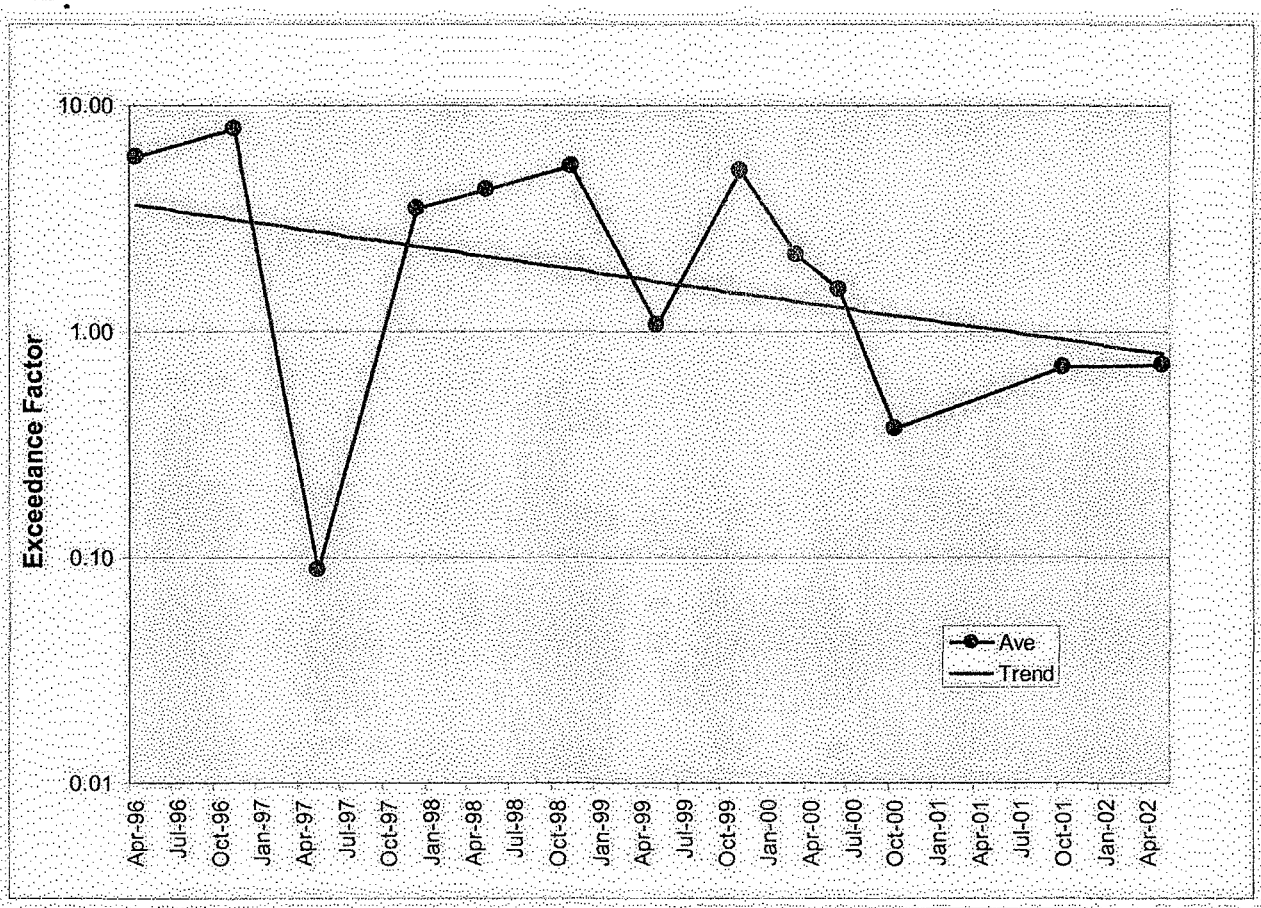
Exceedance value shown is average value for monitored metals

Figure __
Storm Water Benchmark Exceedance Factors
Correlation Between Early and Current Metals
All Parameters Across All Basins
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152195

LOG PLOT



$$\text{Exceedance Factor} = \frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$$

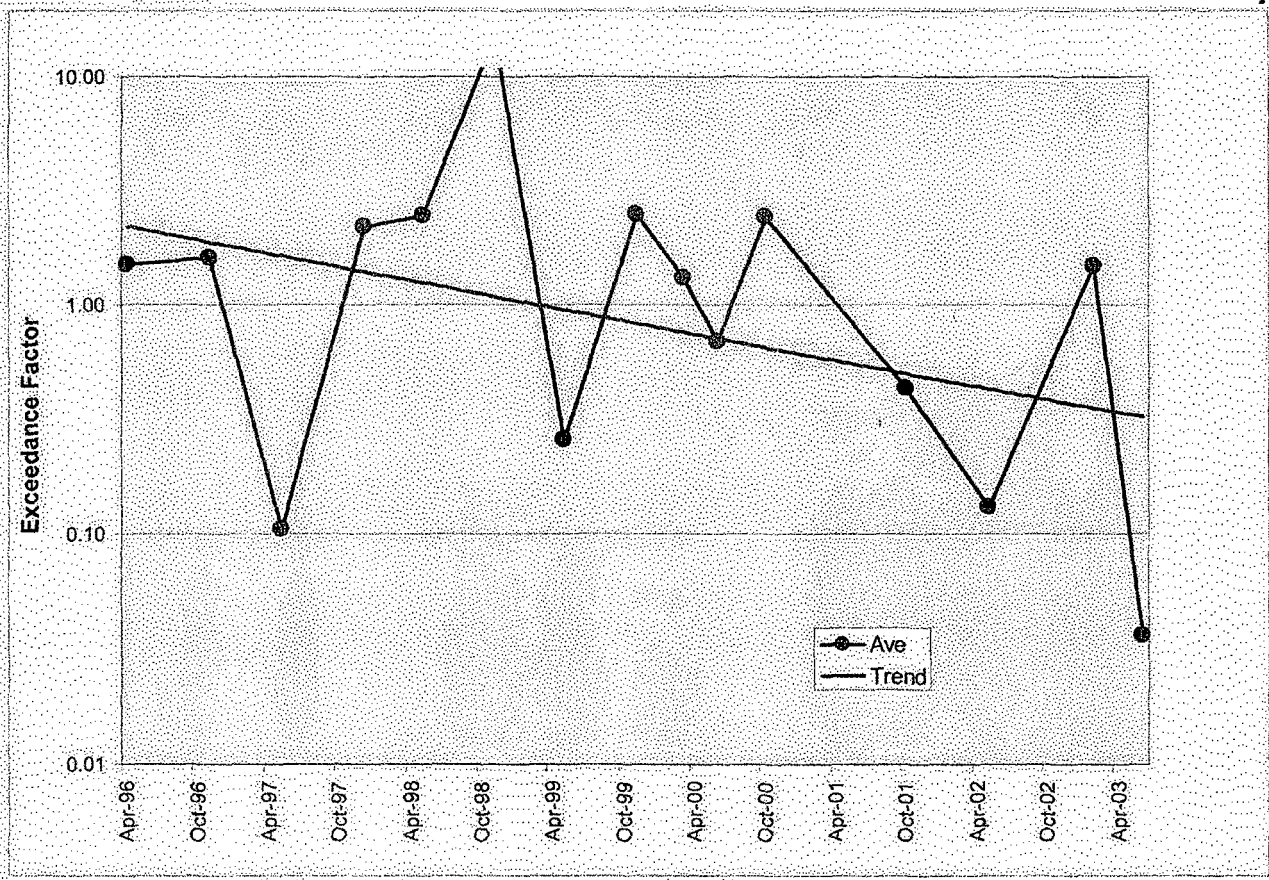
Exceedance value shown is average value across all 1200-Z parameters

Figure __

Basin 2 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152196



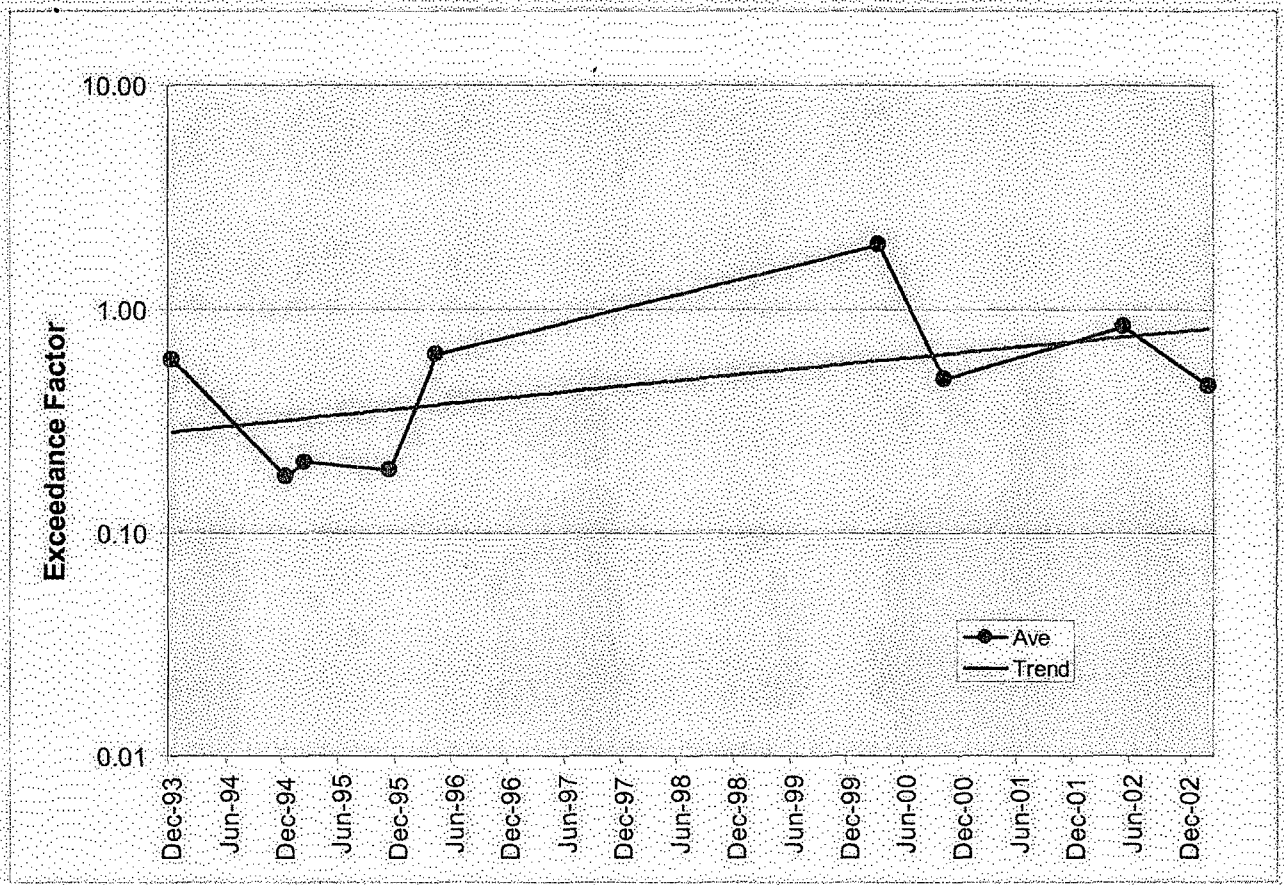
$$\text{Exceedance Factor} = \frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$$

Exceedance value shown is average value across all 1200-Z parameters

Figure __
Basin 3 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152197



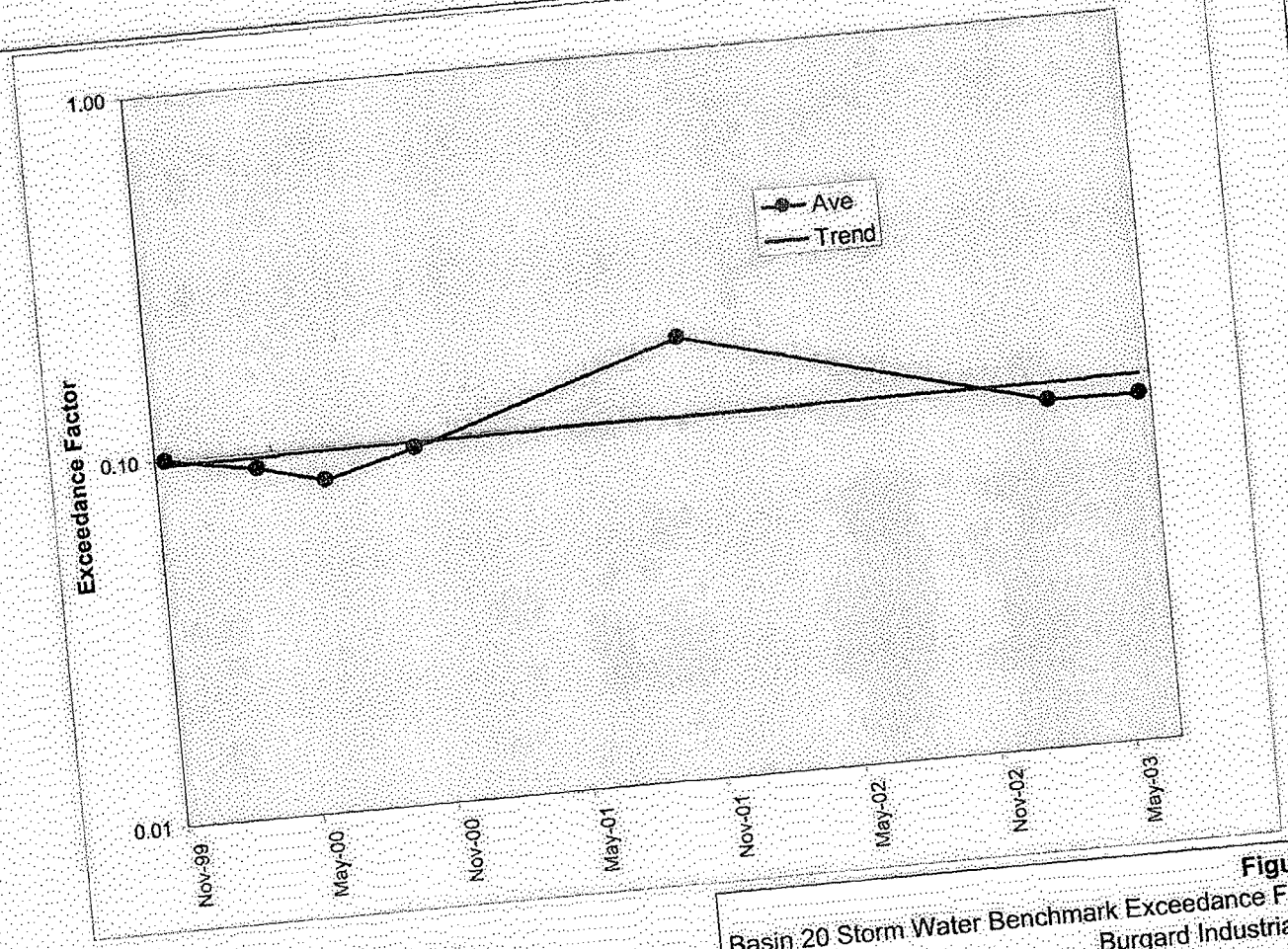
$$\text{Exceedance Factor} = \frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$$

Exceedance value shown is average value across all 1200-Z parameters

Figure __
Basin 16 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152198



Exceedance Factor = $\frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$

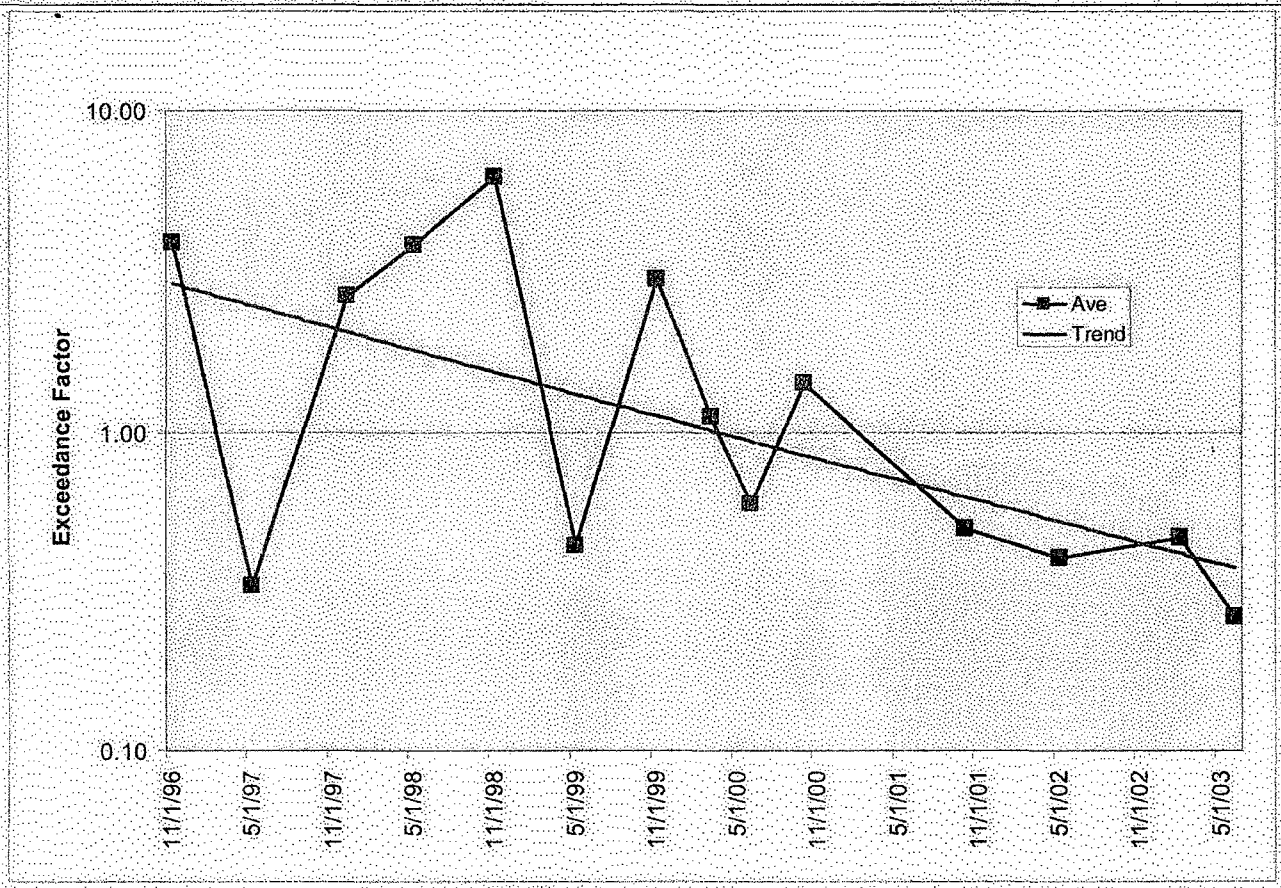
Exceedance value shown is average value across all 1200-Z parameters

Figure ___

Basin 20 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152199



$$\text{Exceedance Factor} = \frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$$

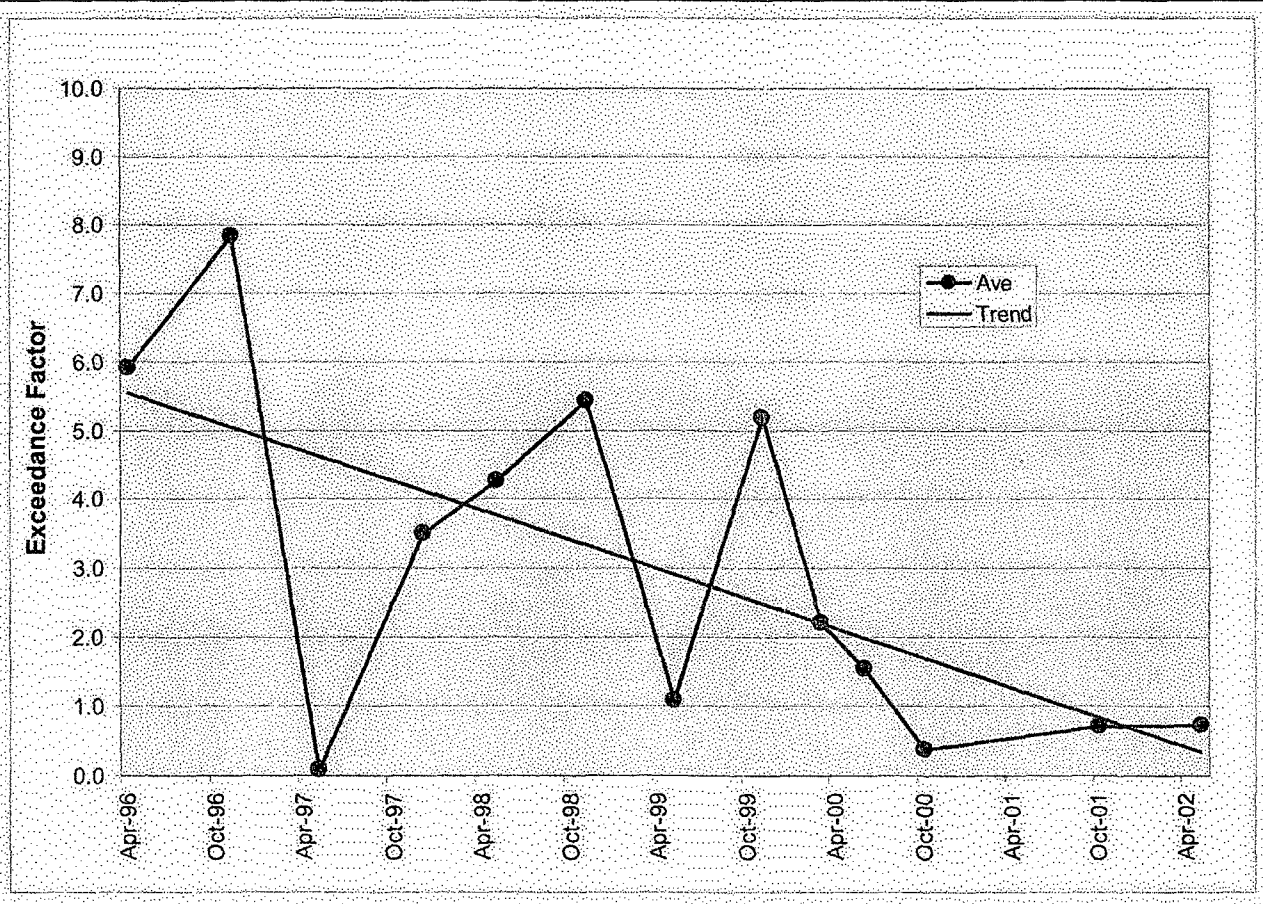
Exceedance value shown is average value across all 1200-Z parameters

Figure __
Storm Water Benchmark Exceedance Factors - Average All Basins
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152200

STANDARD PLOT



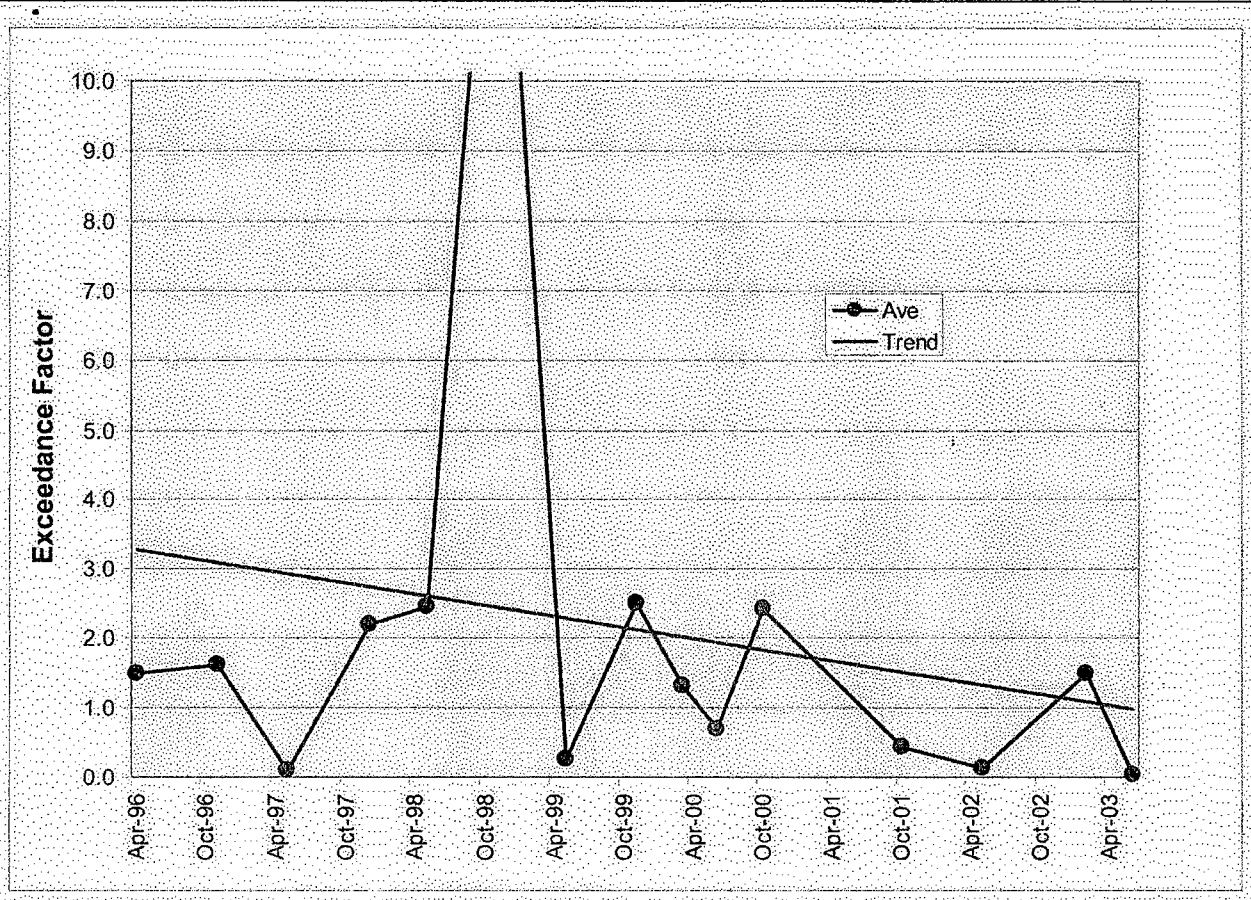
Exceedance Factor = $\frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$

Exceedance value shown is average value across all 1200-Z parameters

Figure __
Basin 2 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152201



$$\text{Exceedance Factor} = \frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$$

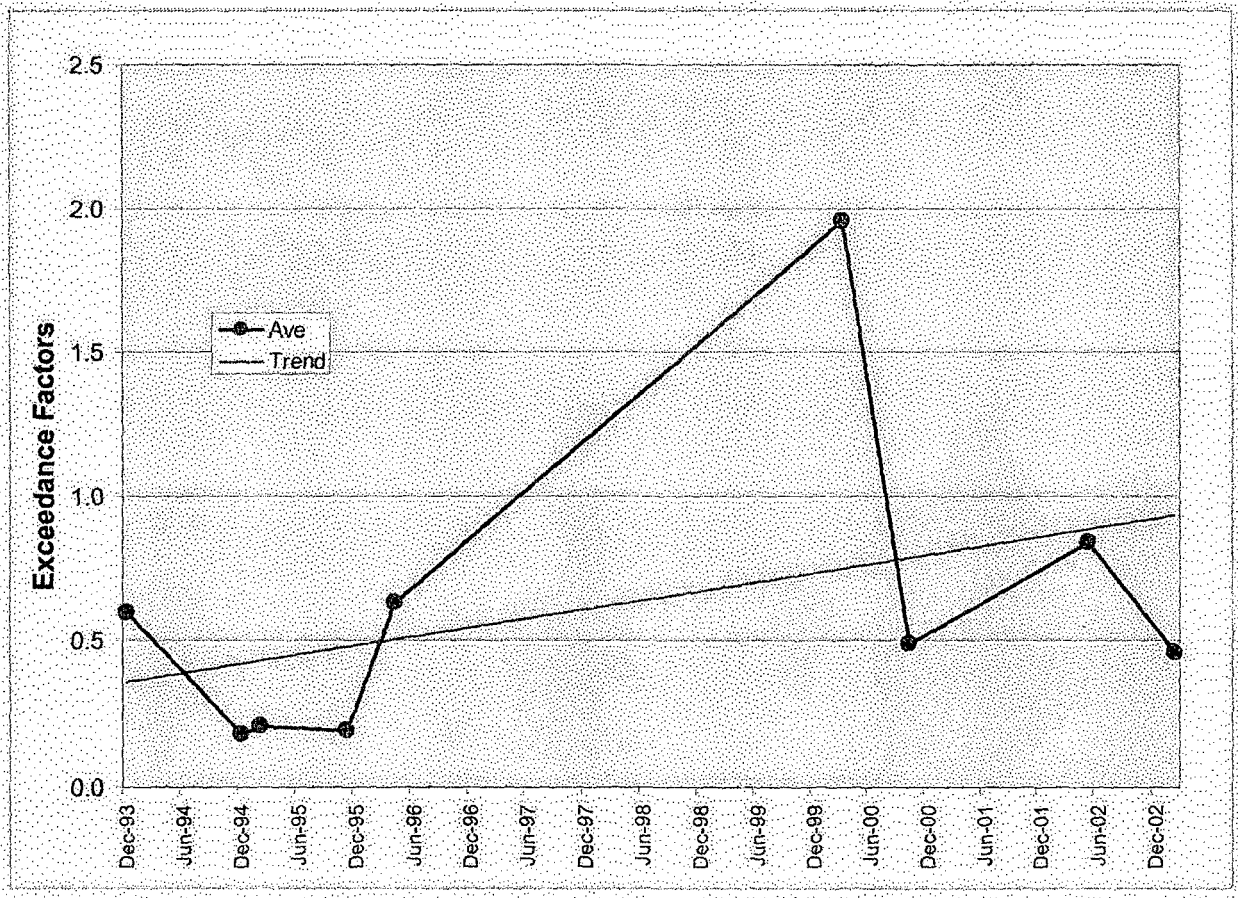
Exceedance value shown is average value across all 1200-Z parameters

Figure ___

Basin 3 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152202



$$\text{Exceedance Factor} = \frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$$

Exceedance value shown is average value across all 1200-Z parameters

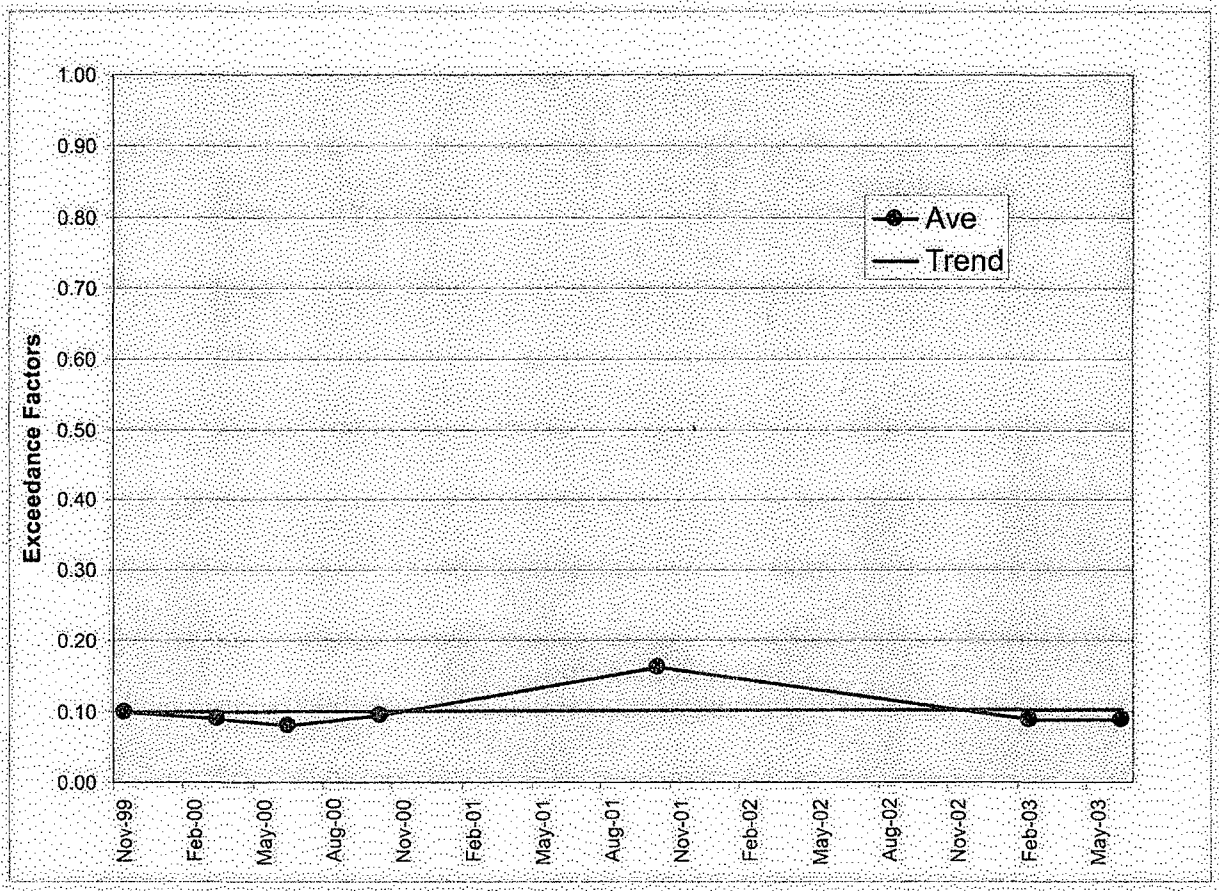
Figure __

Basin 16 Storm Water Benchmark Exceedance Factors

Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152203



$$\text{Exceedance Factor} = \frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$$

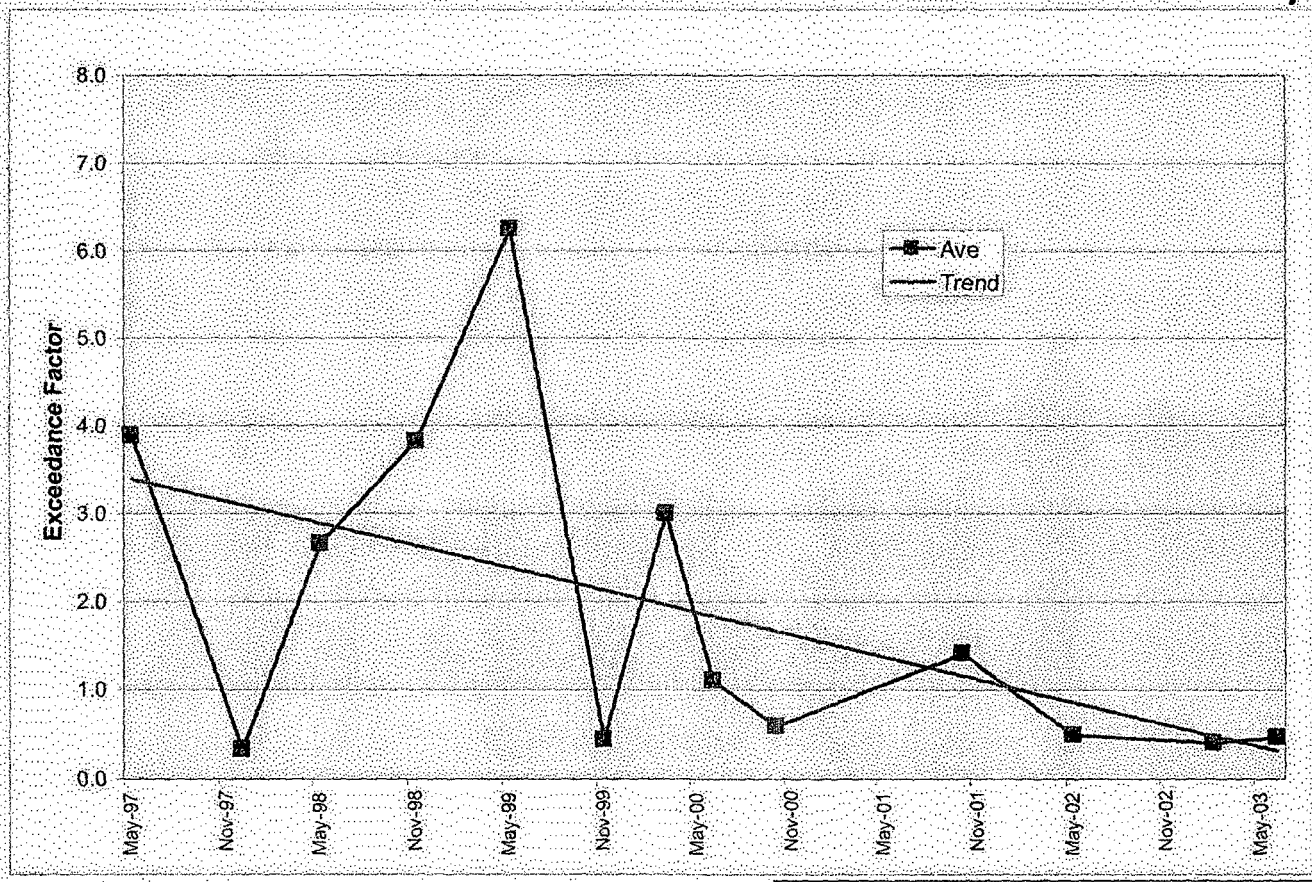
Exceedance value shown is average value across all 1200-Z parameters

Figure __

Basin 20 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152204



$$\text{Exceedance Factor} = \frac{\textit{Measured Concentration}}{\text{1200-Z Benchmark}}$$

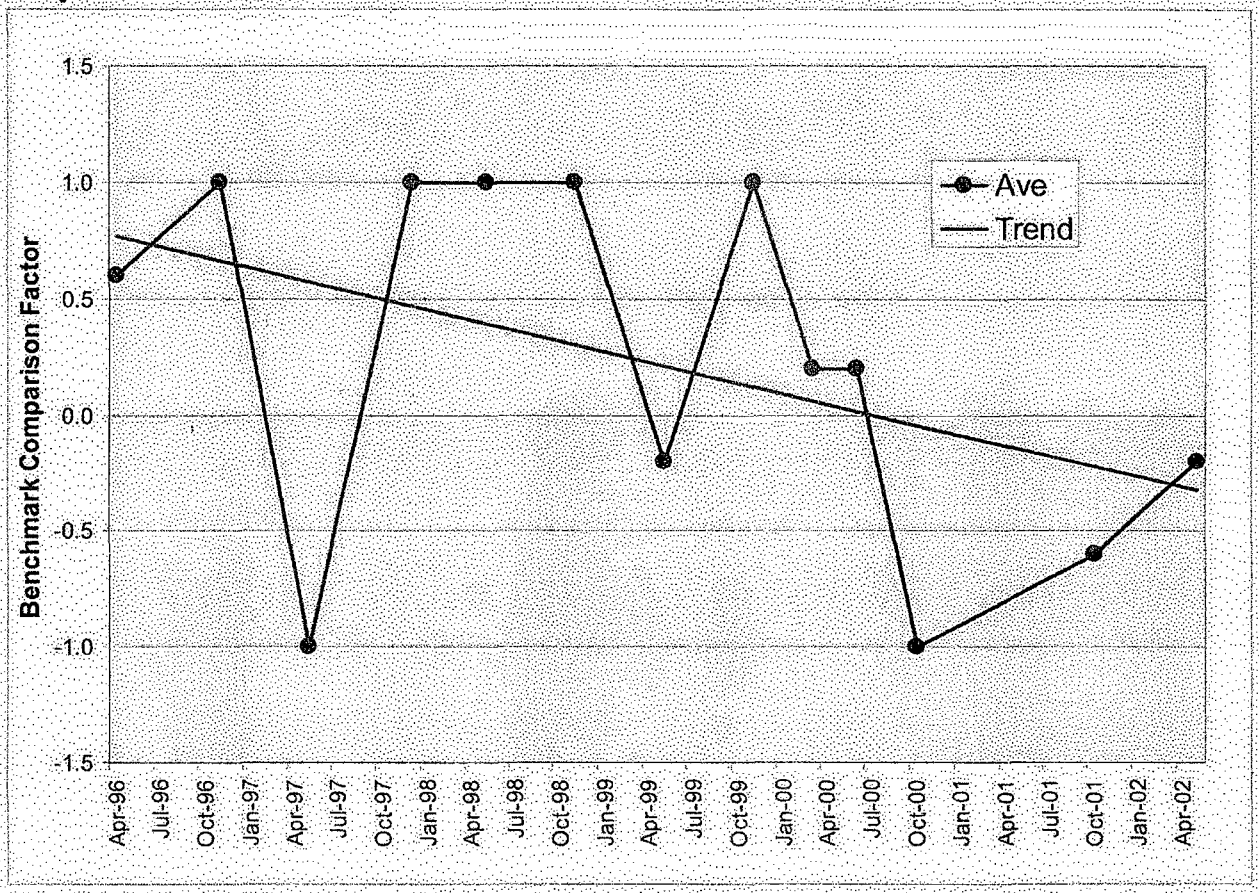
Exceedance value shown is average value across all 1200-Z parameters

Figure __
Storm Water Benchmark Exceedance Factors - Average All Basins
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152205

COMP FACTORS



Benchmark Comparison Factor (BMF) = 1 if concentrations > permit benchmark, -1 if concentration < permit benchmark

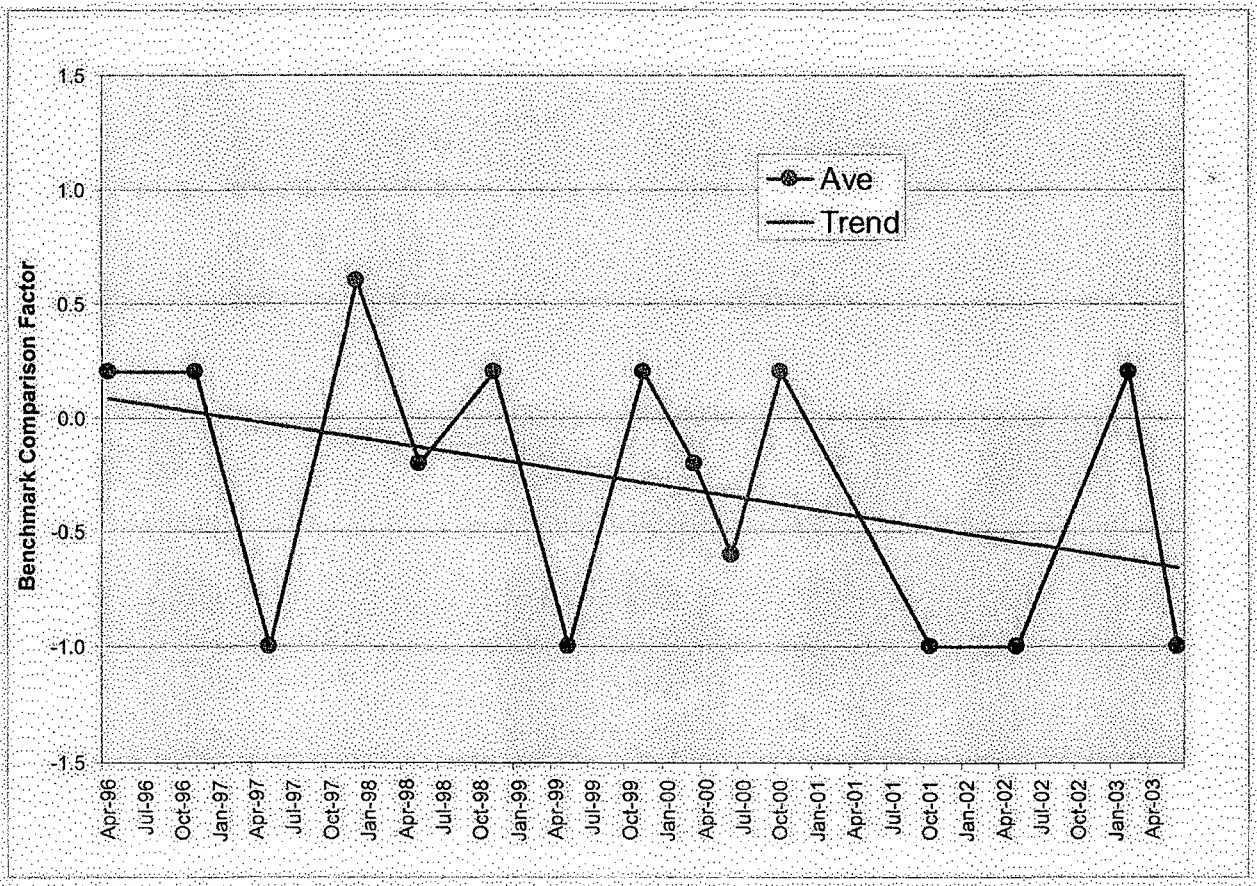
Data points represent average BMF across all parameters for each sampling event. For example, data point of -1.0 indicates that all parameters were less than benchmarks, data point of 0.0 indicates one-half of parameters exceeded benchmarks and one-half did not.

Figure __

Basin 2 Storm Water Benchmark Comparison Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152206



Benchmark Comparison Factor (BMF) = 1 if concentrations > permit benchmark, -1 if concentration < permit benchmark

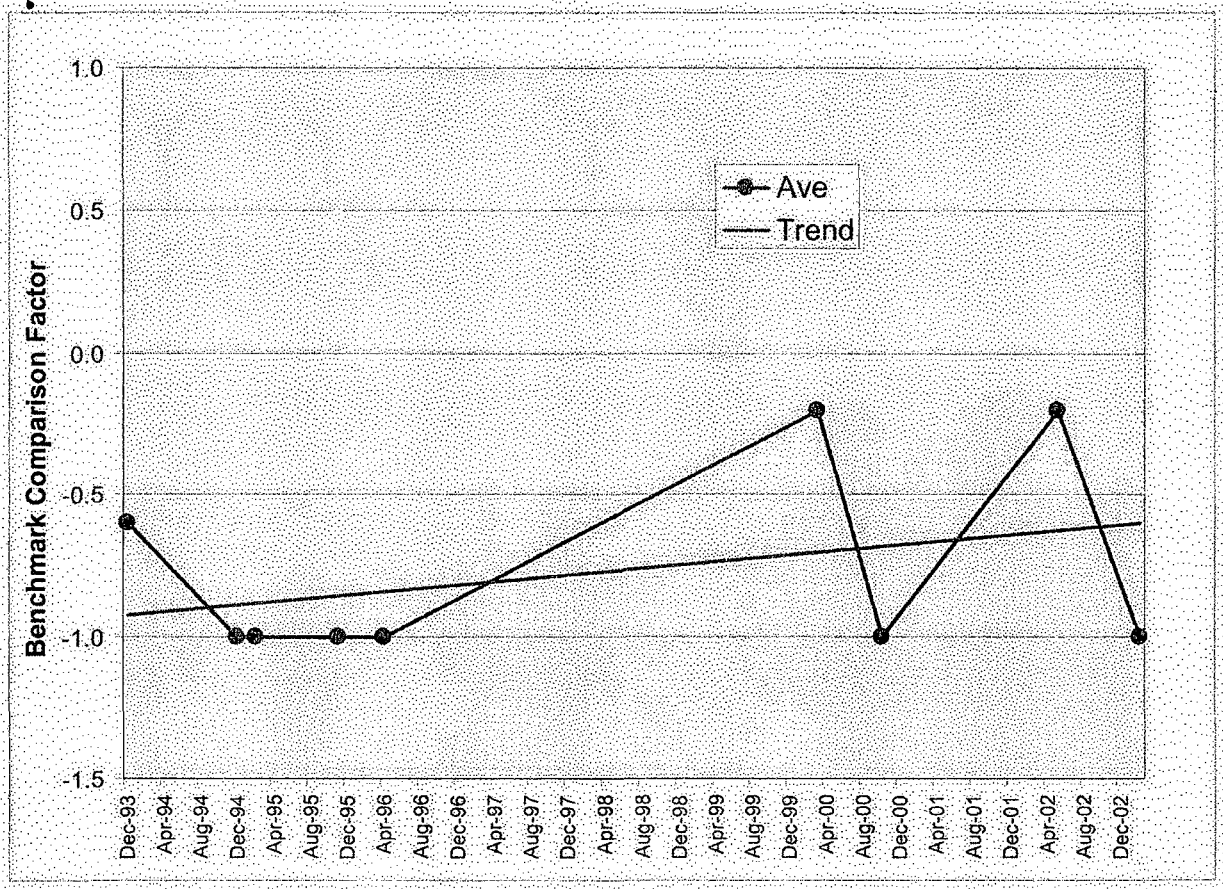
Data points represent average BMF across all parameters for each sampling event. For example, data point of -1.0 indicates that all parameters were less than benchmarks, data point of 0.0 indicates one-half of parameters exceeded benchmarks and one-half did not.

Figure __

Basin 3 Storm Water Benchmark Comparison Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152207



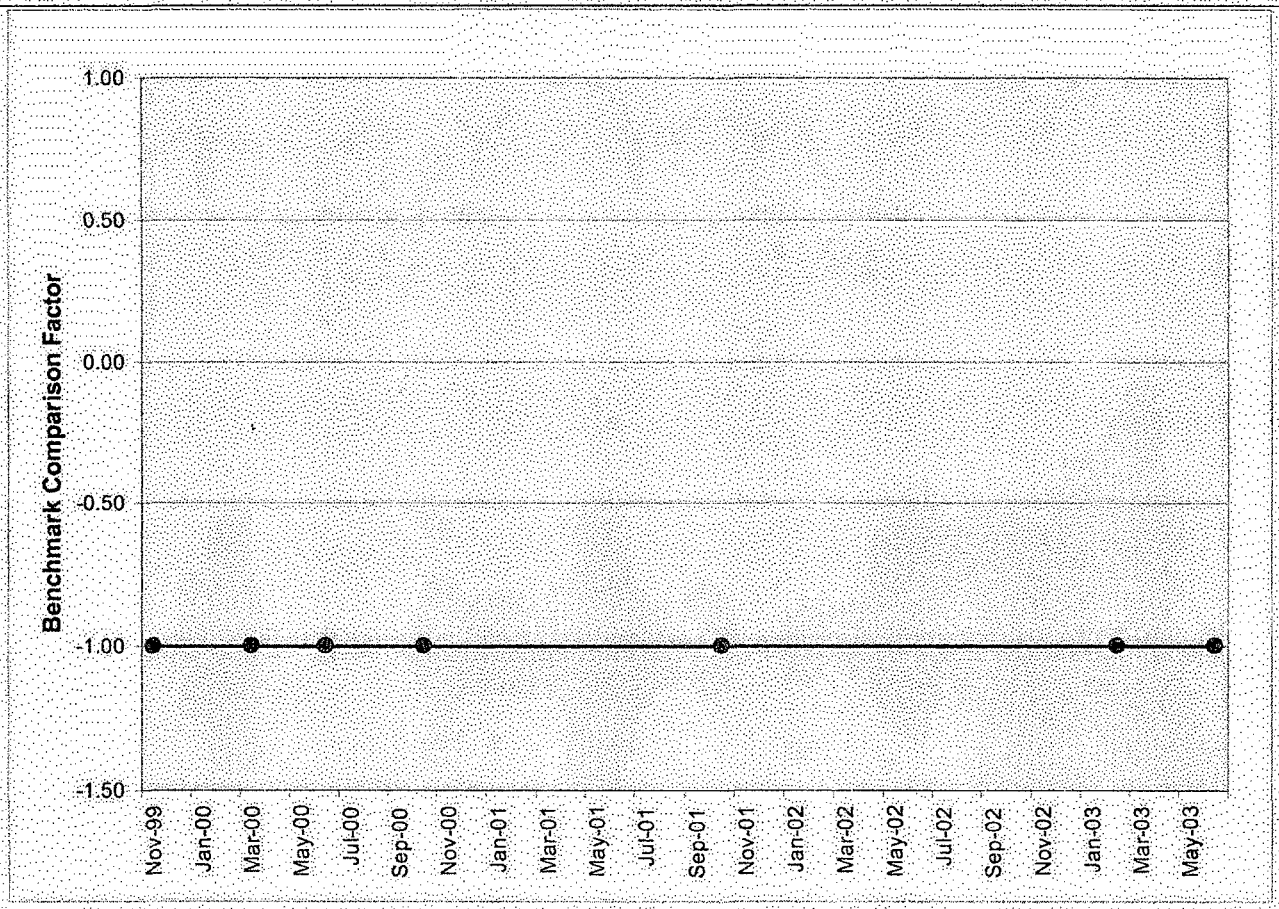
Benchmark Comparison Factor (BMF) = 1 if concentrations > permit benchmark, -1 if concentration < permit benchmark

Data points represent average BMF across all parameters for each sampling event. For example, data point of -1.0 indicates that all parameters were less than benchmarks, data point of 0.0 indicates one-half of parameters exceeded benchmarks and one-half did not.

Figure __

Basin 16 Storm Water Benchmark Comparison Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.



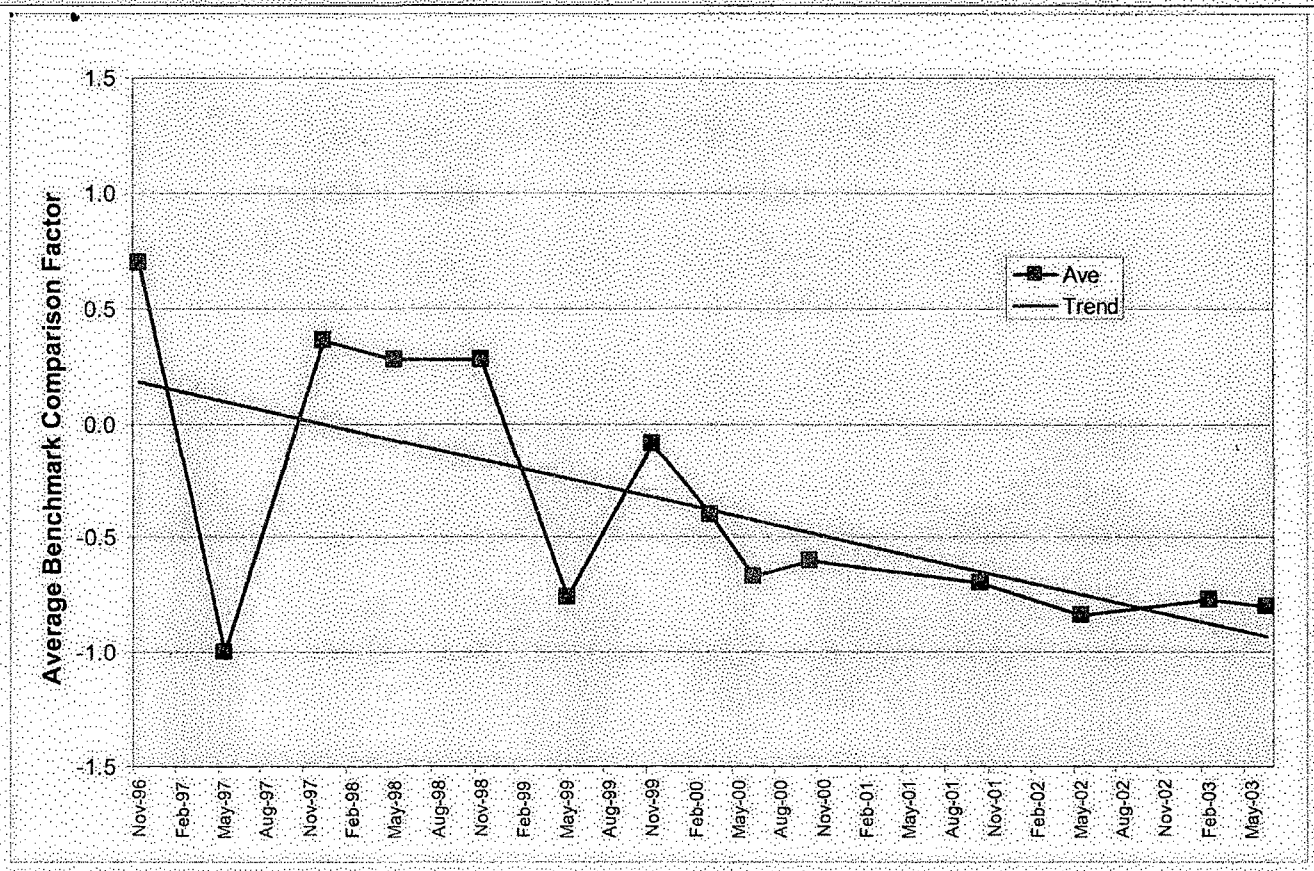
Benchmark Comparison Factor (BMF) = 1 if concentrations > permit benchmark, -1 if concentration < permit benchmark

Data points represent average BMF across all parameters for each sampling event. For example, data point of -1.0 indicates that all parameters were less than benchmarks, data point of 0.0 indicates one-half of parameters exceeded benchmarks and one-half did not.

Figure __

Basin 20 Storm Water Benchmark Comparison Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.



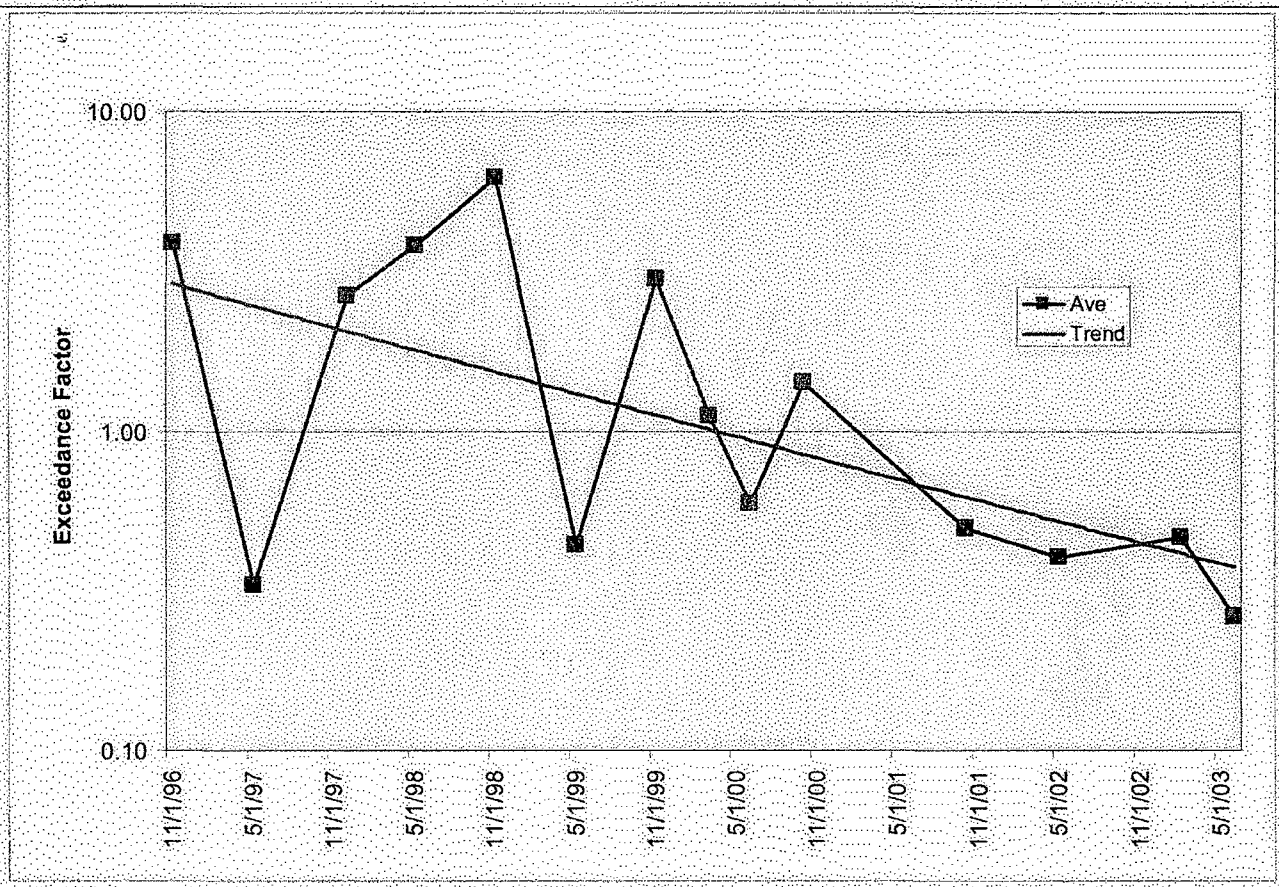
Benchmark Comparison Factor (BMF) = 1 if concentrations > permit benchmark, -1 if concentration < permit benchmark

Data points represent average BMF across all parameters for each sampling event. For example, data point of -1.0 indicates that all parameters were less than benchmarks, data point of 0.0 indicates one-half of parameters exceeded benchmarks and one-half did not.

Figure ___
Storm Water Benchmark Comparison Factors - Average All Basins
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152210



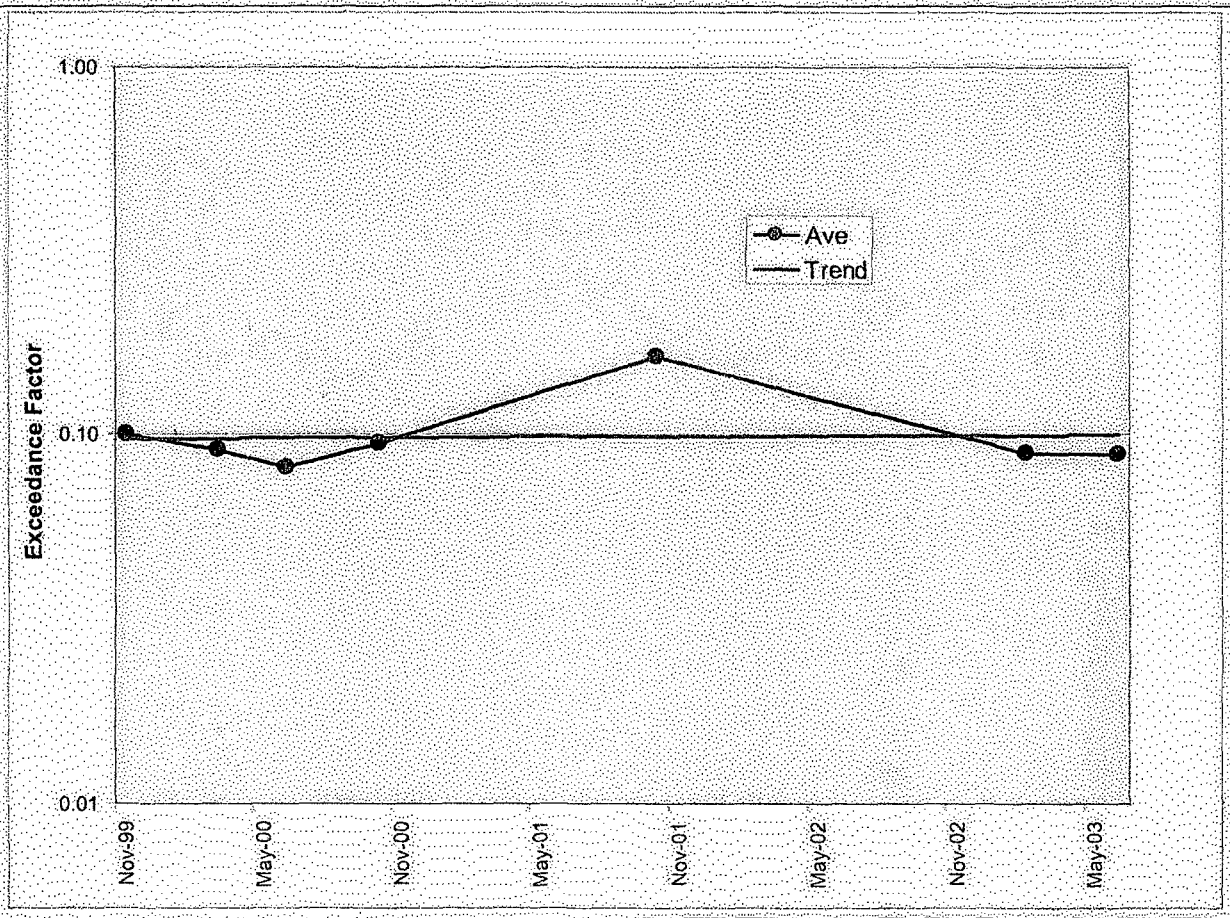
$$\text{Exceedance Factor} = \frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$$

Exceedance value shown is average value across all 1200-Z parameters

Figure __
Storm Water Benchmark Exceedance Factors - Average All Basins
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152211



Exceedance Factor = $\frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$

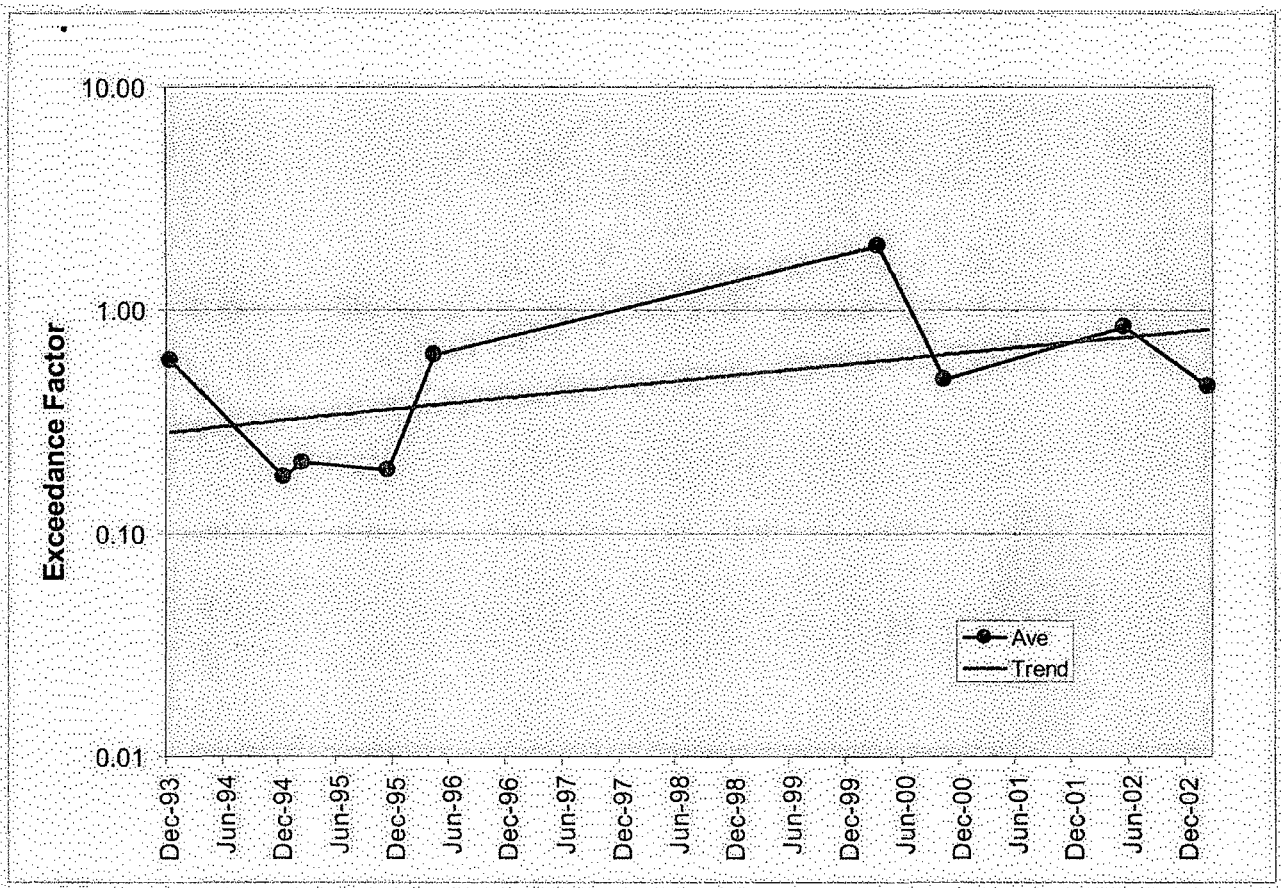
Exceedance value shown is average value across all 1200-Z parameters

Figure __

Basin 20 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152212



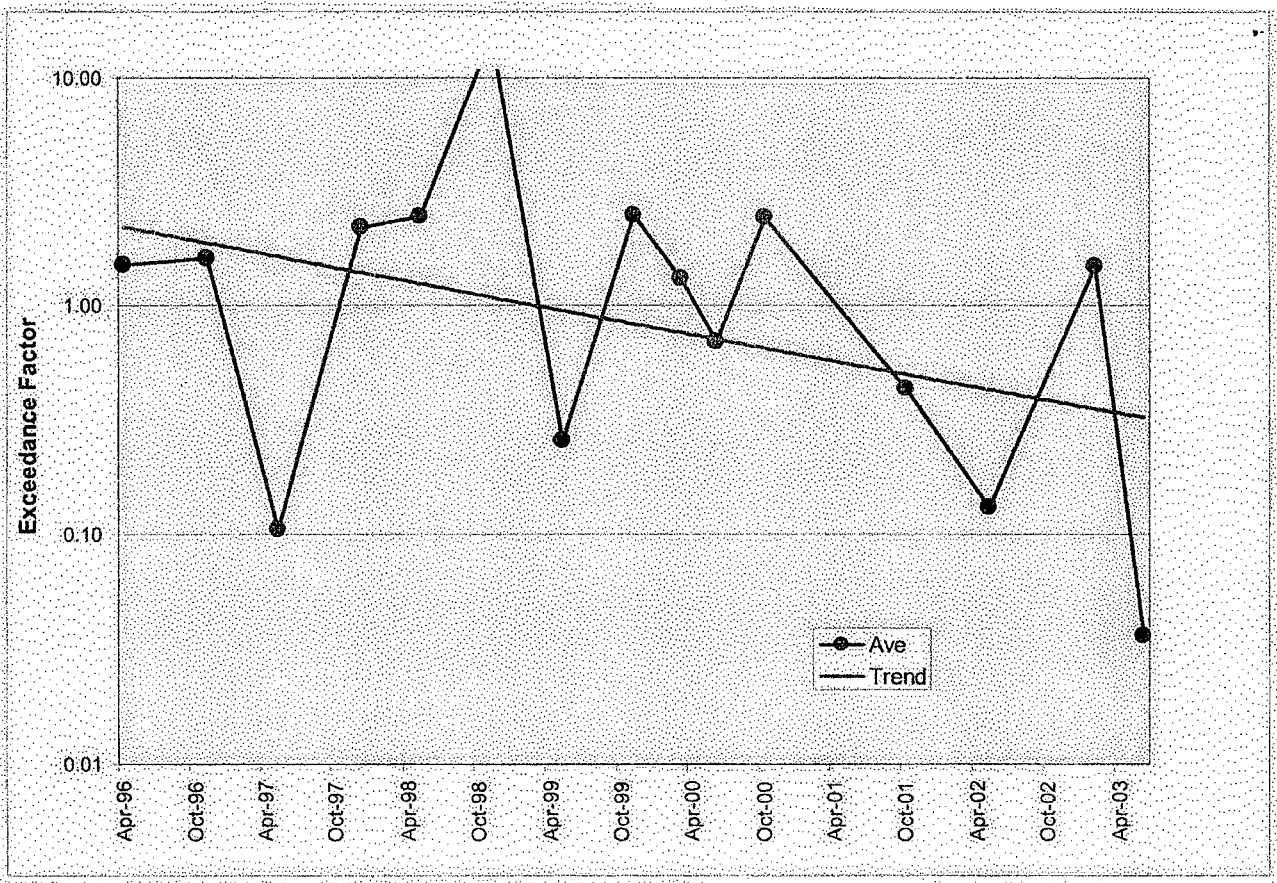
Exceedance Factor = $\frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$

Exceedance value shown is average value across all 1200-Z parameters

Figure __
Basin 16 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152213



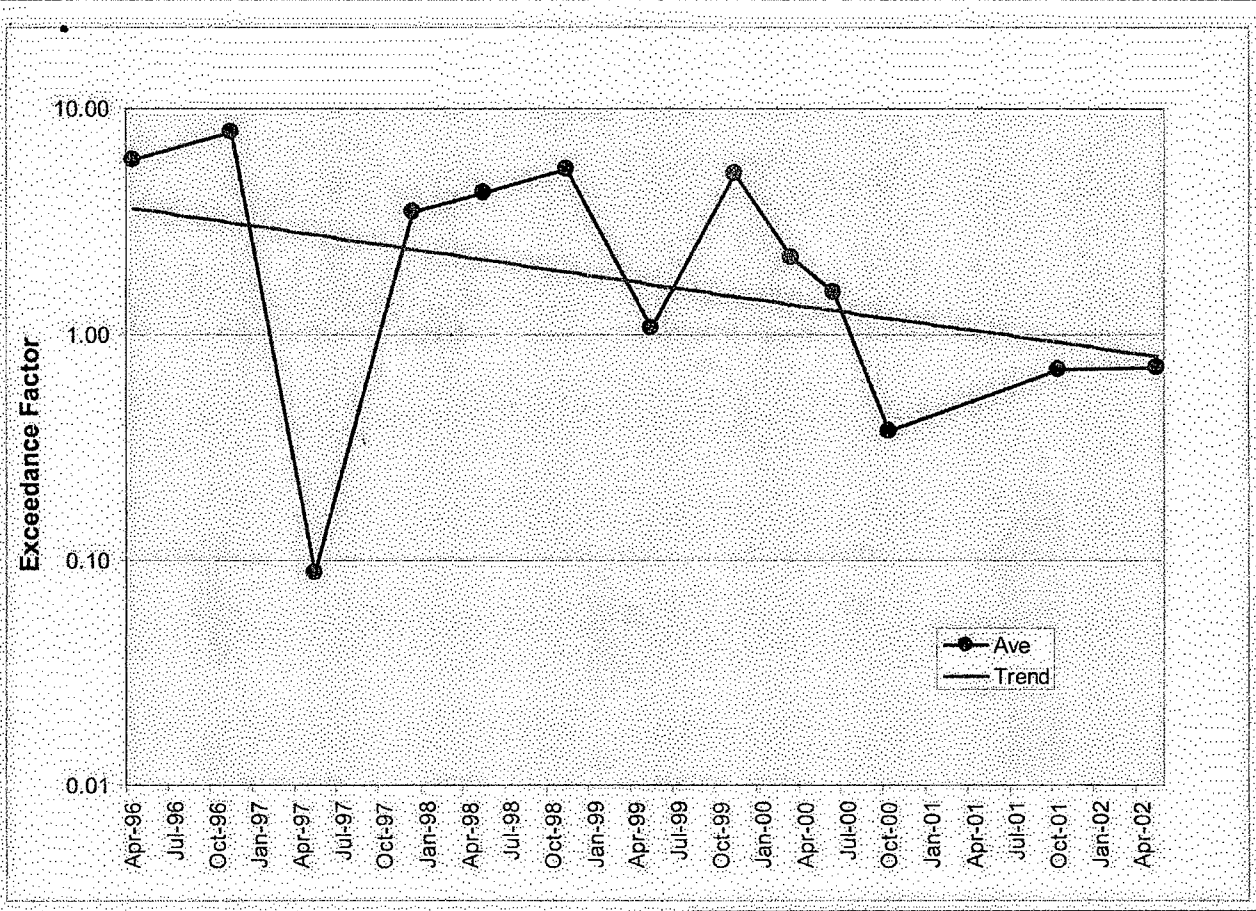
$$\text{Exceedance Factor} = \frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$$

Exceedance value shown is average value across all 1200-Z parameters

Figure __
Basin 3 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152214



$$\text{Exceedance Factor} = \frac{\text{Measured Concentration}}{\text{1200-Z Benchmark}}$$

Exceedance value shown is average value across all 1200-Z parameters

Figure __

Basin 2 Storm Water Benchmark Exceedance Factors
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152215

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

July 7, 2003

Ms. Alicia Voss
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
April through June 2003
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period April through June 2003 for the Burgard Industrial Park RI project in Portland, Oregon.

Work Completed April through June 2003

- Repaired the surface monument for MW-04 and replaced the concrete surface seal on April 1, 2003.
- Prepared quarterly status report and submitted to DEQ on April 8, 2003.
- Performed Phase II RI soil and groundwater sampling on April 15, 2003.
- Sampled monitoring well MW-04 on April 15, 2003 as part of the semi-annual groundwater monitoring.
- Resampled monitoring well MW-03 on April 28, 2003 as part of the semi-annual groundwater monitoring. This well was resampled due to laboratory error on original sample collected in March 2003.
- Submitted analytical data to DEQ on May 20, 2003 from split sediment sample collected from the IT Slip by the Lower Willamette Group.
- Submitted *March/April Groundwater Monitoring Results* to DEQ on May 28, 2003.
- Submitted *Phase II Remedial Investigation Results* to DEQ on May 30, 2003.
- Performed groundwater level measurement monitoring in all site monitoring wells on June 20, 2003.
- Tabulated, reviewed, and assessed current operational and structural Best Management Practices at the Burgard site as part of the *Enhanced Best Management Practice* program.

- Began review of the storm water monitoring data for the Burgard site as part of the *Enhanced Best Management Practice* program.

Activities Planned July through September 2003

- Complete review of the storm water monitoring data for the Burgard site as part of the *Enhanced Best Management Practice* program.
- Prepare BMP review and assessment report.
- Meet with DEQ and discuss BMP review and assessment report and next steps for *Enhanced Best Management Practice* program.
- Begin to identify and assess potential additional BMPs, if necessary.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated April through June 2003

Sampling, test results, and other data generated during April through June 2003 were presented in the project deliverables submitted to DEQ during the reporting period.

Problems Experienced April through June 2003

No problems other than those documented above were encountered during April through June 2003.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

Table 1
Groundwater Elevations in Monitoring Wells
Burgard Industrial Park

Monitoring Well	Ground Surface Elevation (ft)	Top of Casing Elevation (ft)	Date	Depth (ft)	GW Elev (ft) COP Datum
MW-01	28.40	28.02	1/27/2002	18.05	10.0
			3/23/2003	18.53	9.5
			4/15/2003	18.21	9.8
			4/28/2003	17.79	10.2
			6/20/2003	17.73	10.3
MW-02	27.80	27.39	1/27/2002	16.46	10.9
			3/23/2003	16.63	10.8
			4/15/2003	17.36	10.0
			4/28/2003	17.15	10.2
			6/20/2003	17.83	9.6
MW-03	27.60	27.27	1/27/2002	17.65	9.6
			3/23/2003	17.59	9.7
			4/15/2003	nm	nm
			4/28/2003	16.91	10.4
			6/20/2003	16.75	10.5
MW-04	28.40	28.03	1/27/2002	16.99	11.0
			3/23/2003	nm	nm
		27.93	4/15/2003	17.93	10.0
			4/28/2003	17.52	10.4
			6/20/2003	18.17	9.8
MW-05	28.80	28.34	1/27/2002	17.47	10.9
			3/23/2003	17.83	10.5
			4/15/2003	18.68	9.7
			4/28/2003	17.35	11.0
			6/20/2003	19.22	9.1
MW-06	28.80	28.31	1/27/2002	11.89	16.4
			3/23/2003	12.37	15.9
			4/15/2003	12.13	16.2
			4/28/2003	12.31	16.0
			6/20/2003	12.80	15.5
MW-07	35.88	35.47	1/27/2002	25.77	9.7
			3/23/2003	25.41	10.1
			4/15/2003	24.98	10.5
			4/28/2003	24.62	10.9
			6/20/2003	24.24	11.2

		Gauge[1] (ft)	COP Datum[2] (ft)
Willamette River	1/27/2002	8.75	11.68
	3/23/2003	7.95	10.88
	4/15/2003	7.00	9.93
	4/28/2003	6.40	9.33
	6/20/2003	5.80	8.73

1 - Willamette River gauge at Morrison Bridge
2 - COP Datum = Morrison St. Bridge Guage + 2.93

SCHN00152218

Mat

Talking Points – Burgard BMP Program
July 26, 2002

We have demonstrated (at least we believe so) that all pathways, other than surface water/storm water, are not pathways of concern to river.

DEQ has requested sampling of storm water, catch basins, or sediment around outfalls as a measure of this pathway. There are no acceptable criteria with which to use this information to assess whether pathway is causing unacceptable risk.

Minimize data generated for site, especially chemical analytical data.

Expect that anything but one of the three methods requested by DEQ will be rejected by technical staff. Proposal must pass red-face test technically and rely on policy issues so it can be taken to levels above technical staff.

Propose proactive source control removal action in lieu of attempting to assess pathway through sampling and analysis. Use existing NPDES storm water permit as framework for the removal action. Use BMPs as basis for removal action. Monitor effectiveness using NPDES storm water sampling.

Step wise approach:

1) Assess current BMPs. What are they? Where are they? Frequency? Technically sound? Properly implemented? Maintained properly? Etc.

2) Corrective action if current BMPs not being properly implemented. Focus on BMPs being implemented as initial measure. Reference COP presumption of BMPs meeting water quality requirements.

3) If BMP properly implemented, use NPDES sampling as measure of effectiveness. Statistical criteria based on trends and benchmarks. NPDES parameters sufficient surrogates for site COIs. Offsite sources?

4) Consider additional BMPs where a) consistently exceed BMs and static or upward trend or b) occasionally exceed BM and upward trend and no offsite sources.

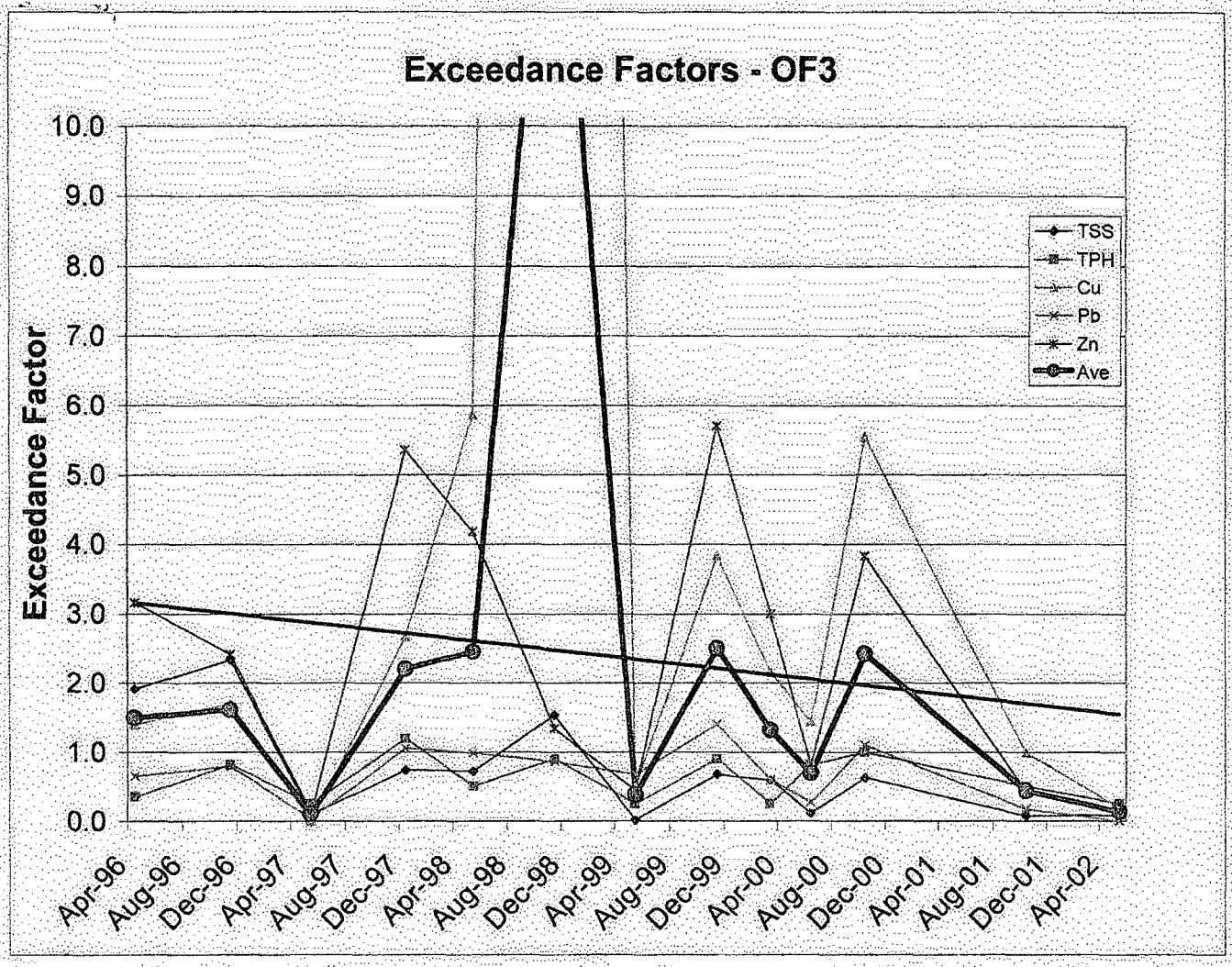
Review of NPDES data notes outfalls beneath slip dock will be identified through this process as needing additional BMPs. Sand filters? Vortech units? Improved o/w separators? Other outfalls OK. Some question regarding Outfall 3.

?

BMP Plan include analysis and results or just process?

Minimize historical data?

Use site-wide data analysis rather than outfall-specific to justify current program without additional process or commitments?



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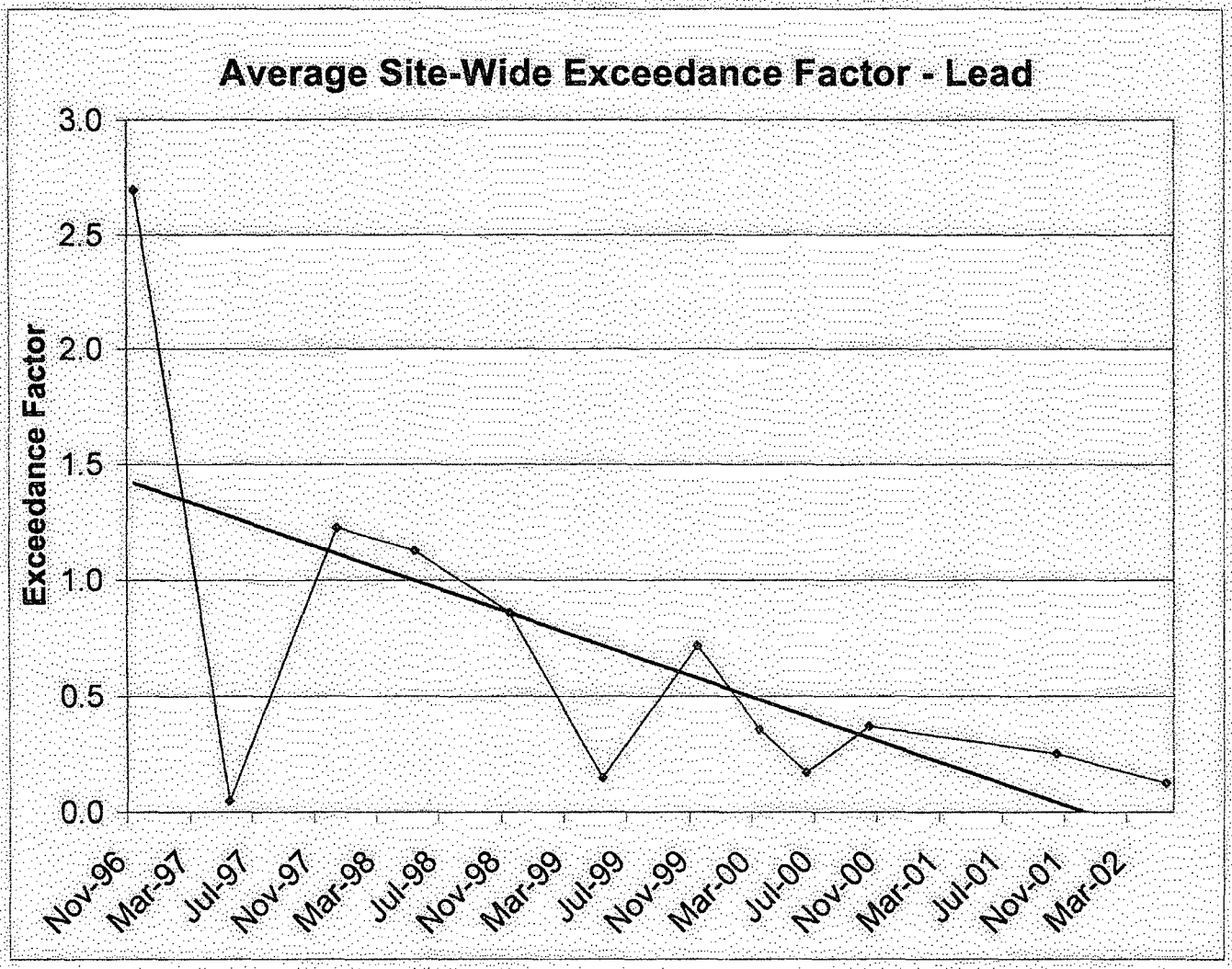

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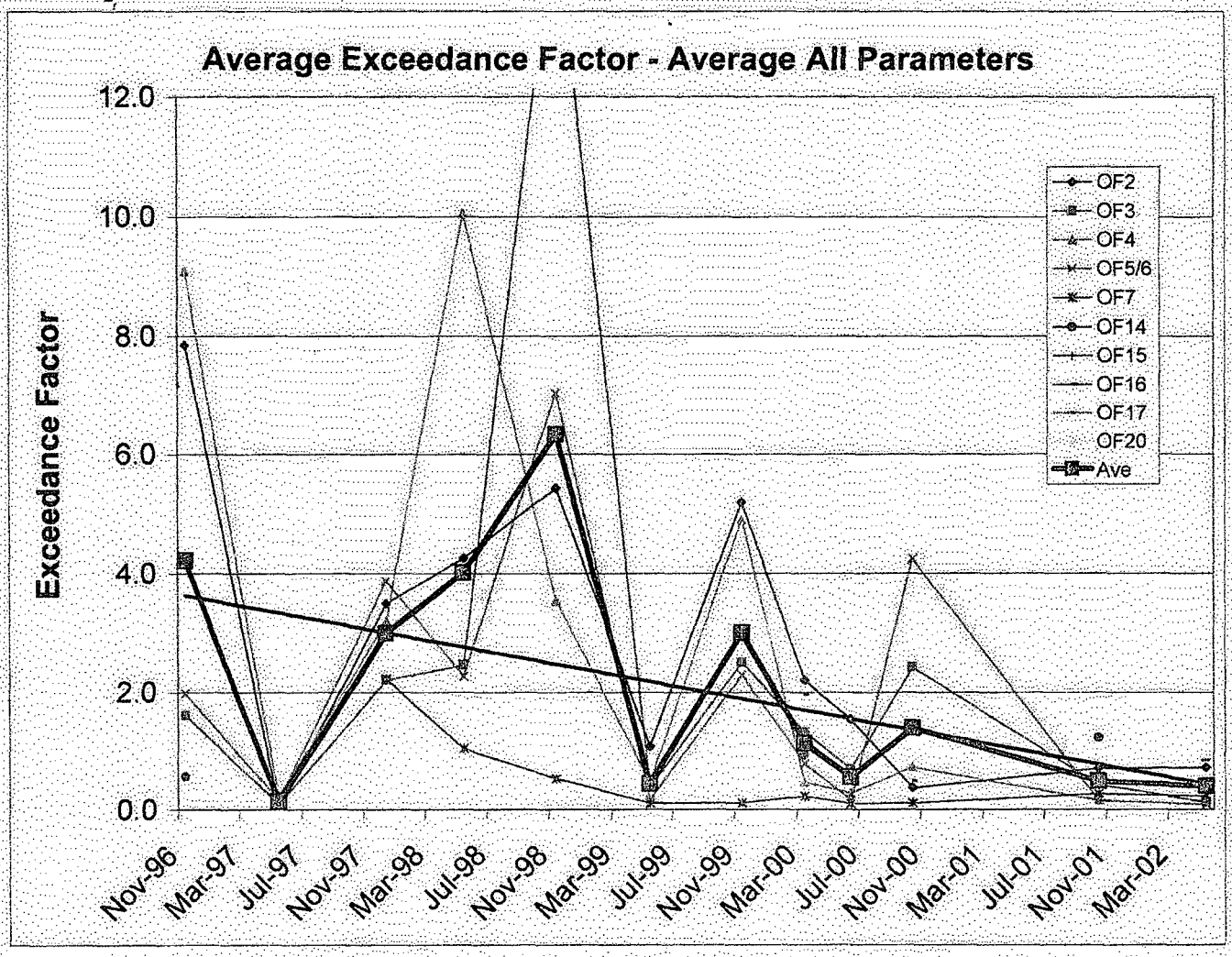

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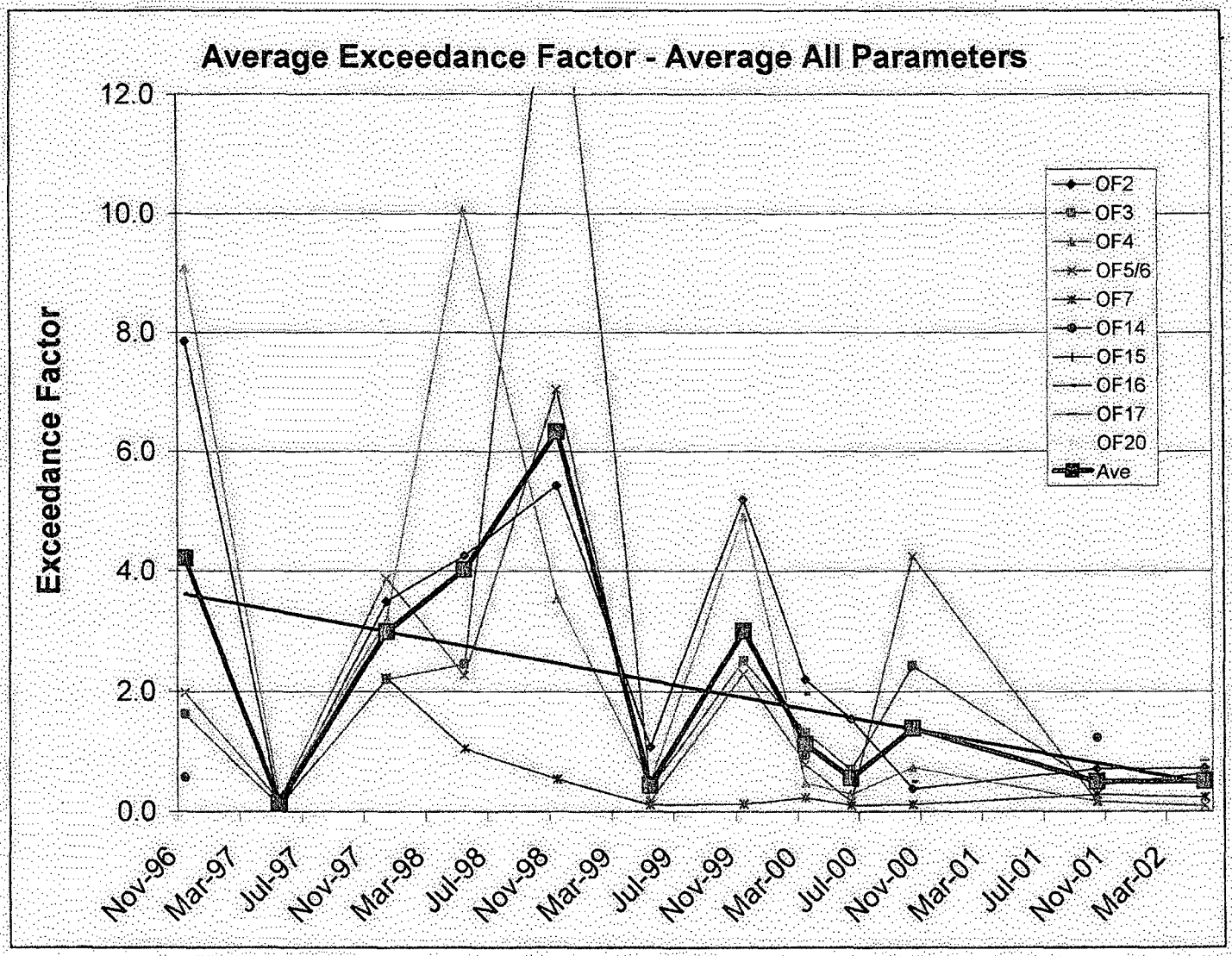
Structural BMPs
Burgard Industrial Park

Outfall	Type	Date Installed	Description/Dimensions
1	Coalescing Oil/Water Separator	Aug-02	17-ft long by 9-ft wide by 7-ft high. 877 GPM capacity. Sediment weir, 3500 ft^2 coalescing media, oil-retaining baffle.
2	Vortechnics treatment unit with sand filter.		Vortechs Model _____. Sand filter 10 ft by 20 ft by 4 ft.
3	Oil water separator and sand filter.		15 ft long by 7 ft high by 9 ft wide two stage oil/water separator. 25 ft long by 11 ft wide by 2-ft deep sand filter.
4	Oil water separator and sand filter.		15 ft long by 7 ft high by 9 ft wide two stage oil/water separator. 40 ft long by 11 ft wide by 2-ft deep sand filter.
5/6	Oil water separator and sand filter.		15 ft long by 7 ft high by 9 ft wide two stage oil/water separator. 140 ft long by 11 ft wide by 2-ft deep sand filter.
7	Oil water separator		Approx 30 ft long by 10 ft high by 10 ft wide. 3 stages cascading. Inverted flow pipes between stages.
13	Oil water separator		Approx 6 ft long by 3 ft wide by 3 ft deep. 2 stages. Attached to side of bulkhead.
14	Oil water separator		4 stage. Each stage about 2 ft wide by 2-ft long by 4 feet high. Inverted flow pies between stages.
15	Oil water separator		Approx 6 ft long by 3 ft wide by 3 ft deep. 2 stages. Attached to side of bulkhead.
16	Oil water separator		4 stage. Each stage about 2 ft wide by 2-ft long by 4 feet high. Inverted flow pies between stages.
19	None		
20	None		



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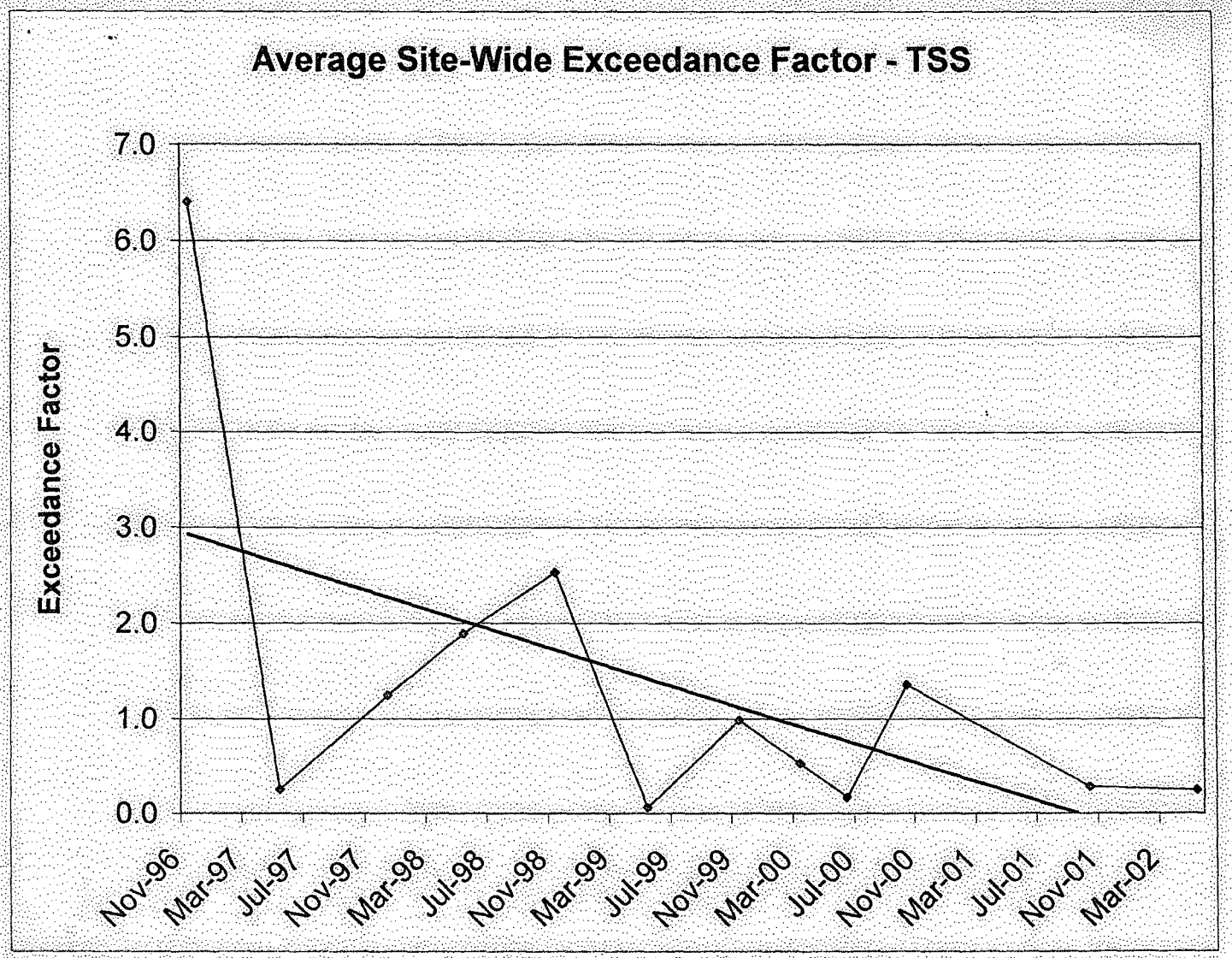

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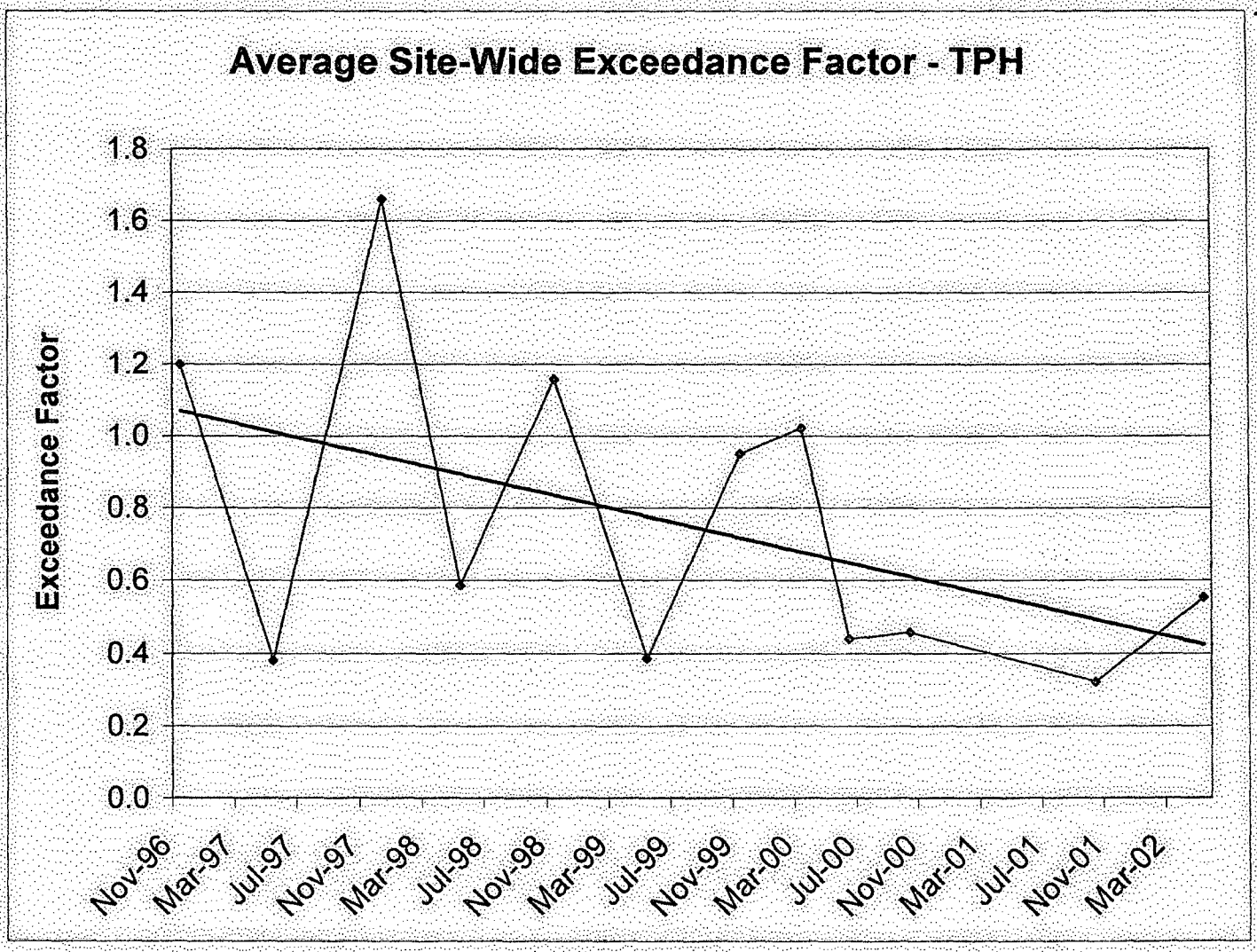

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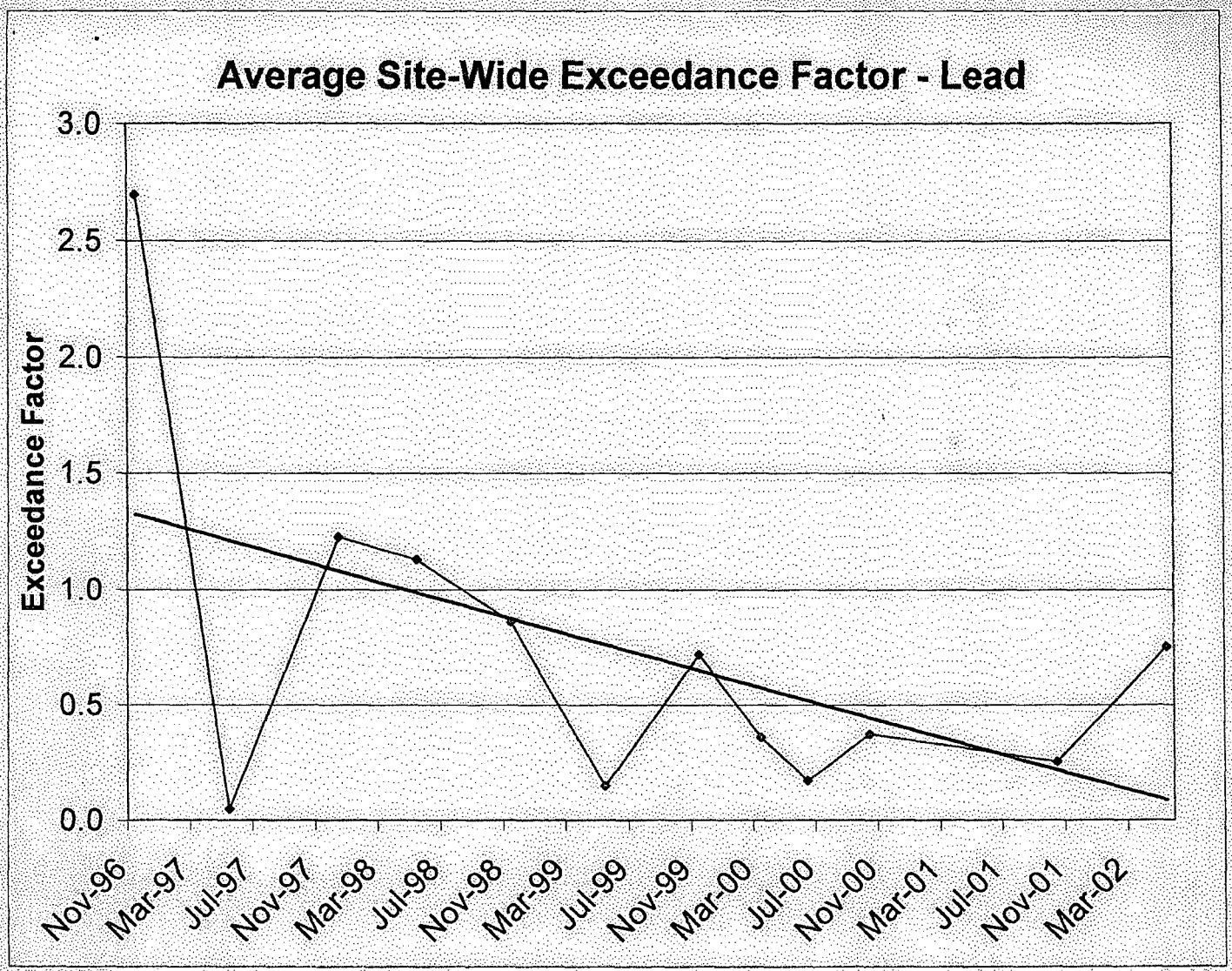

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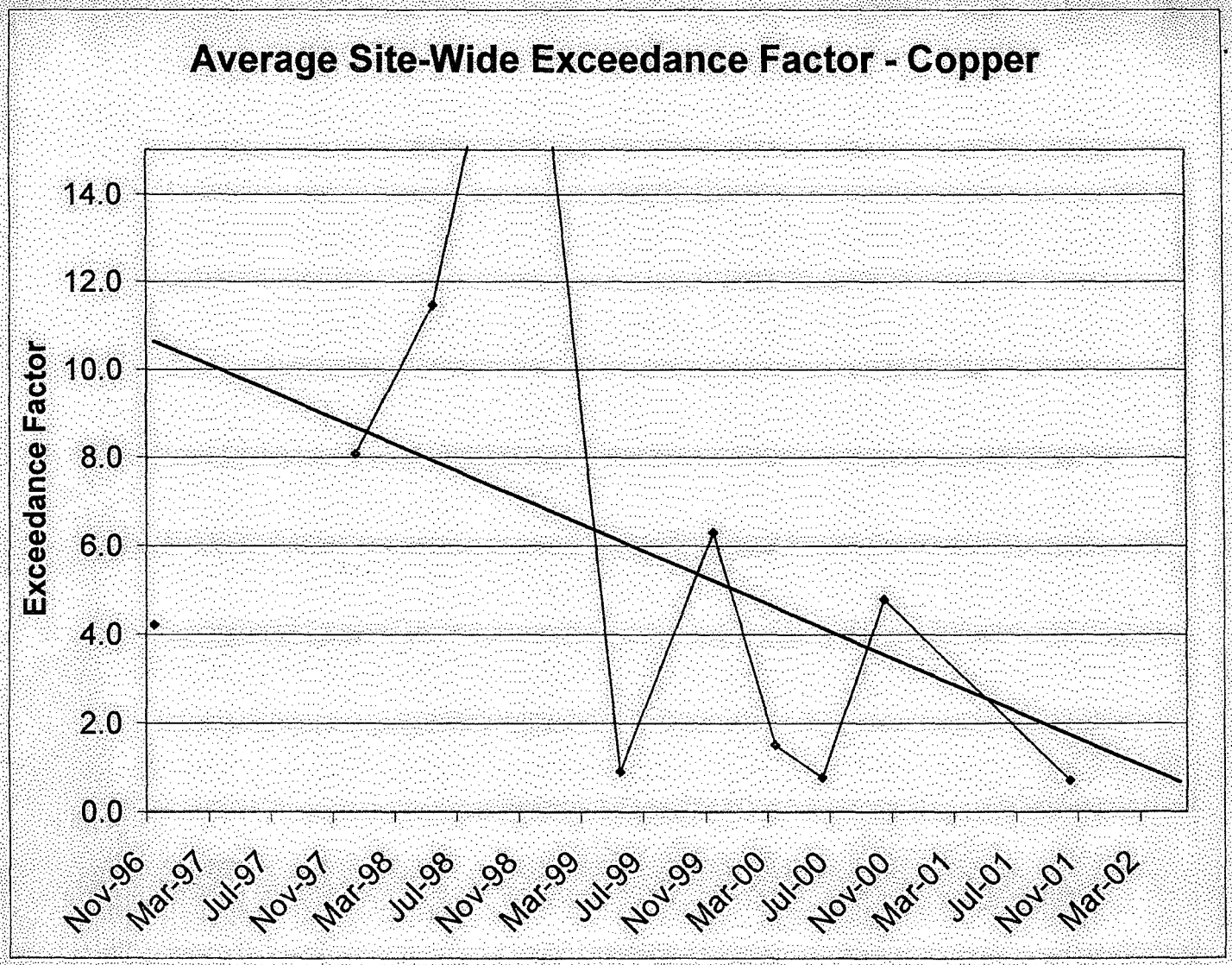

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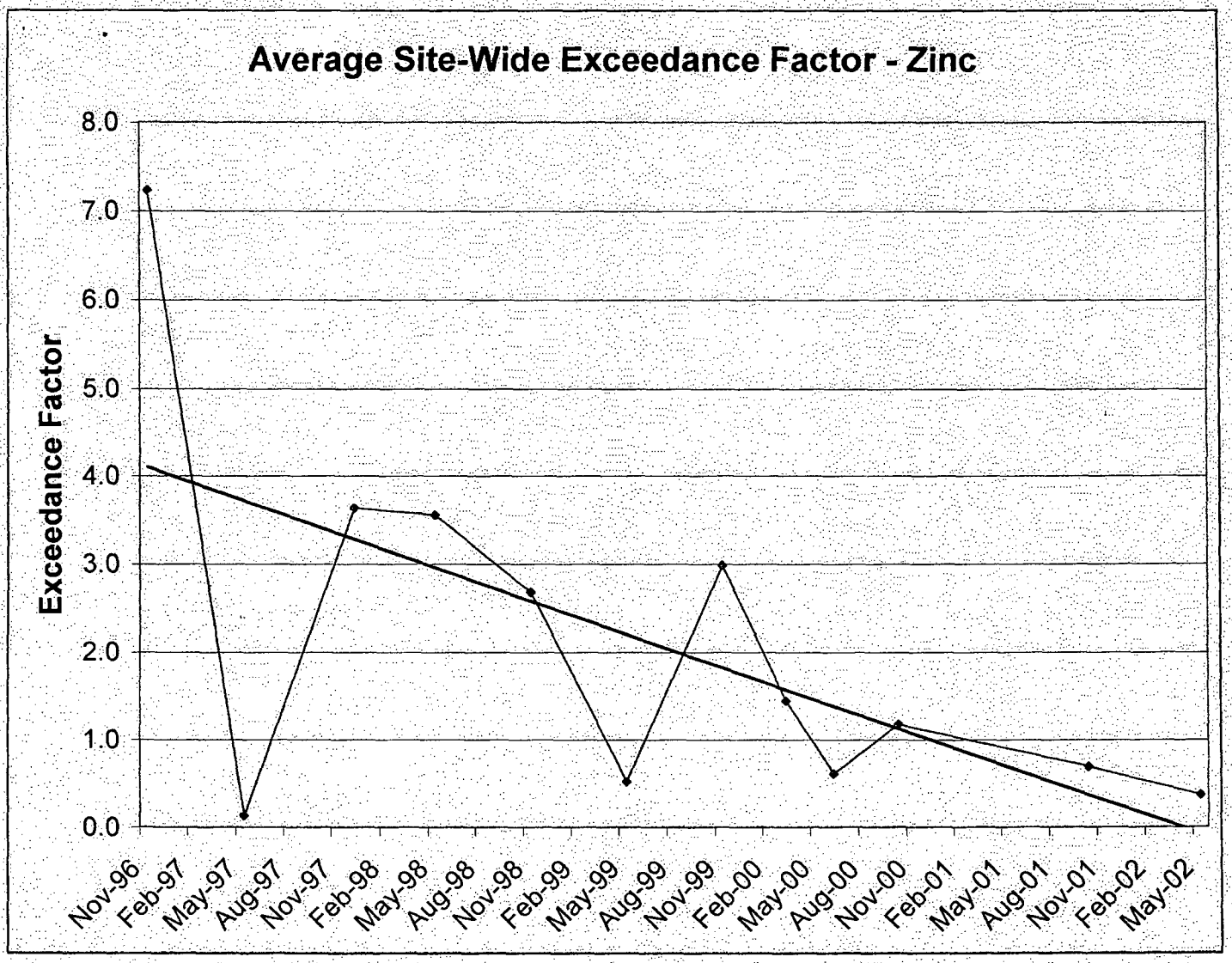

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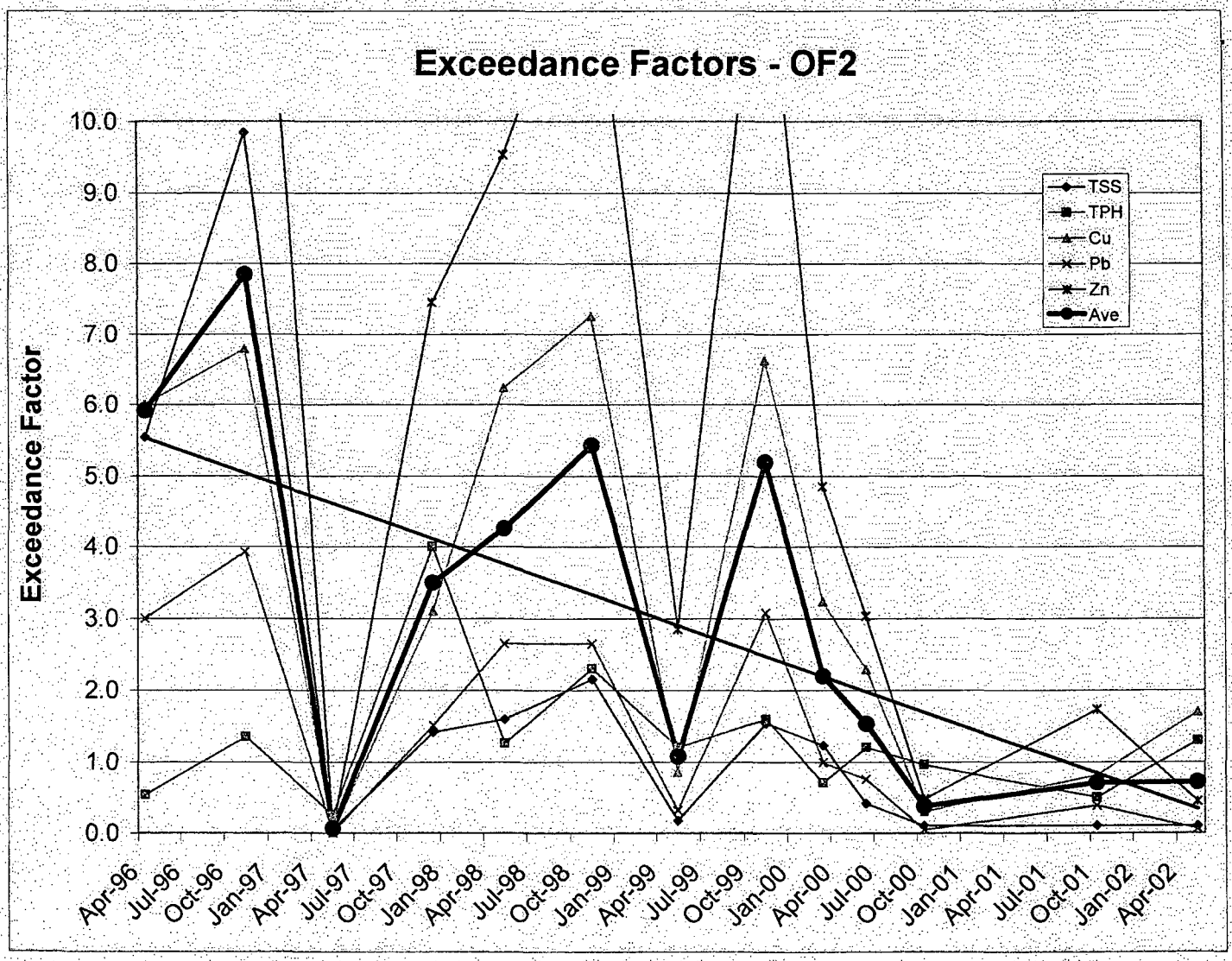

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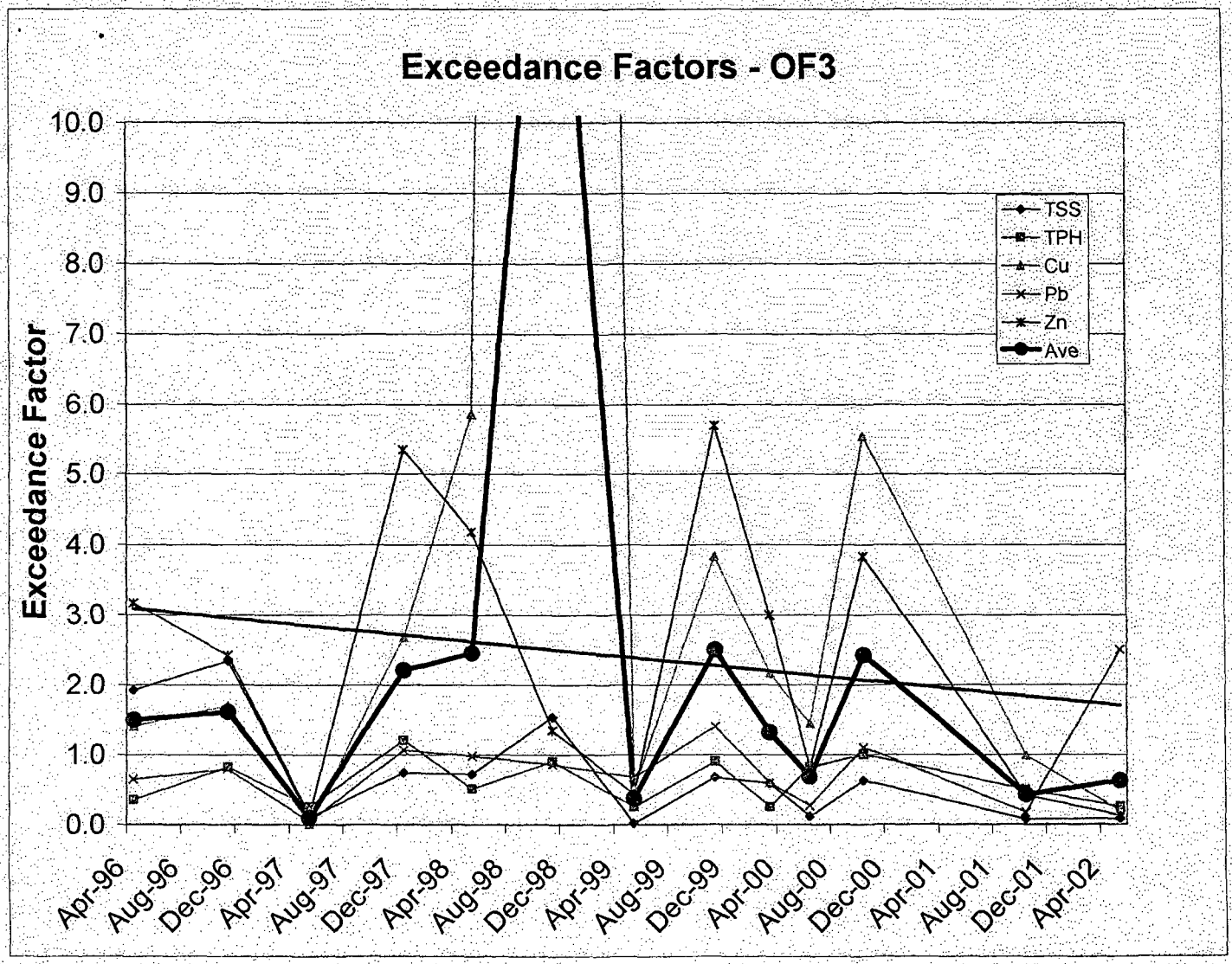

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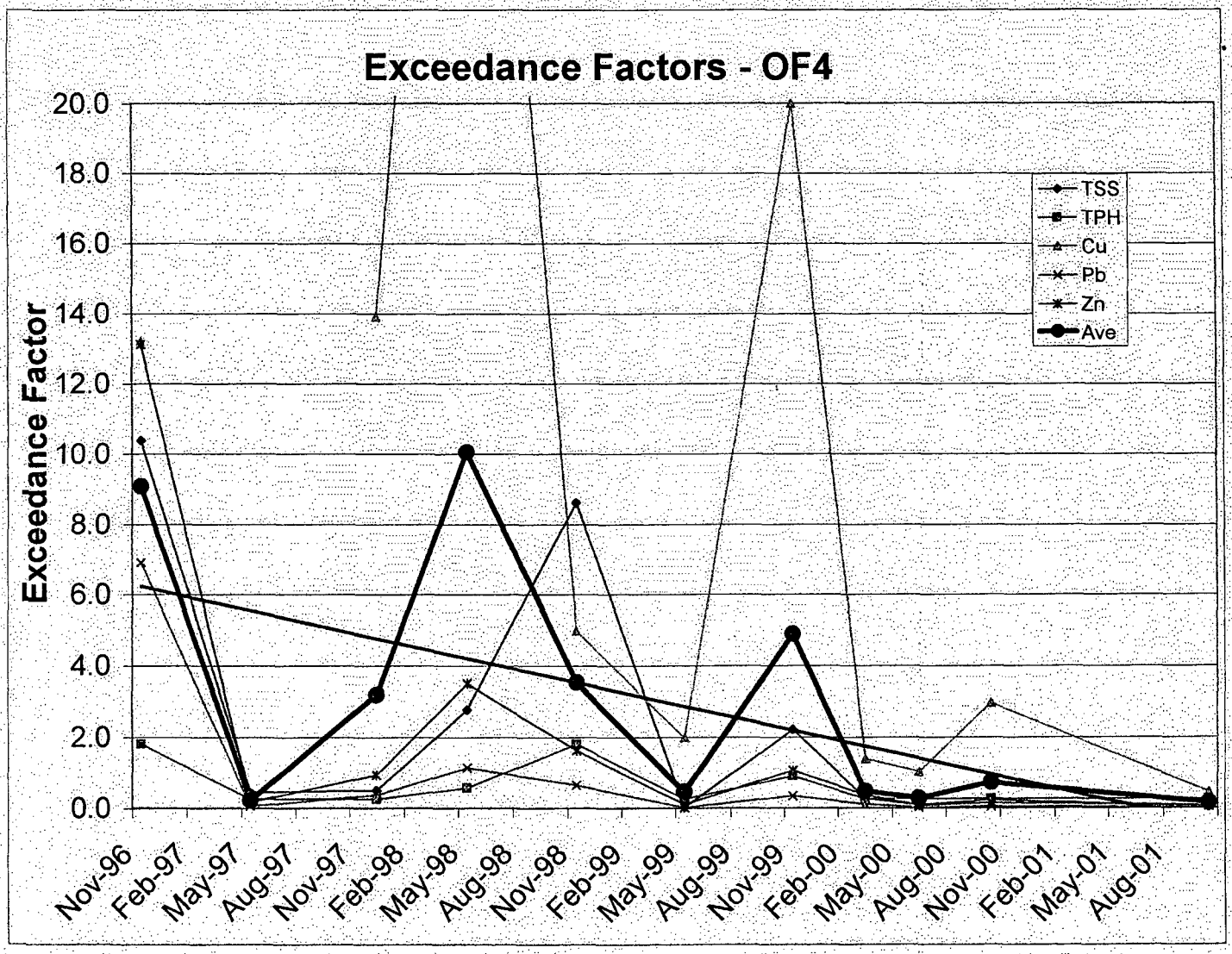

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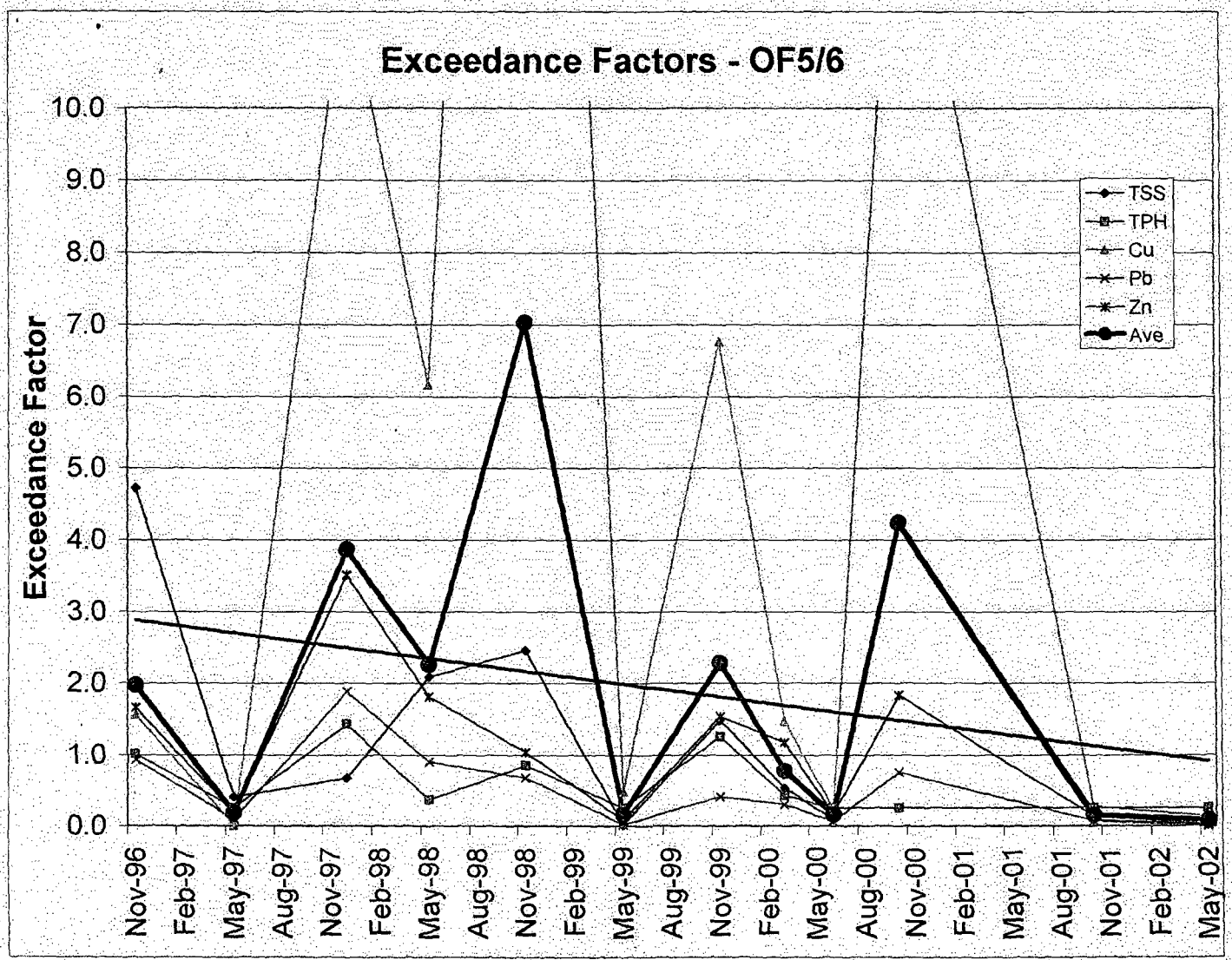

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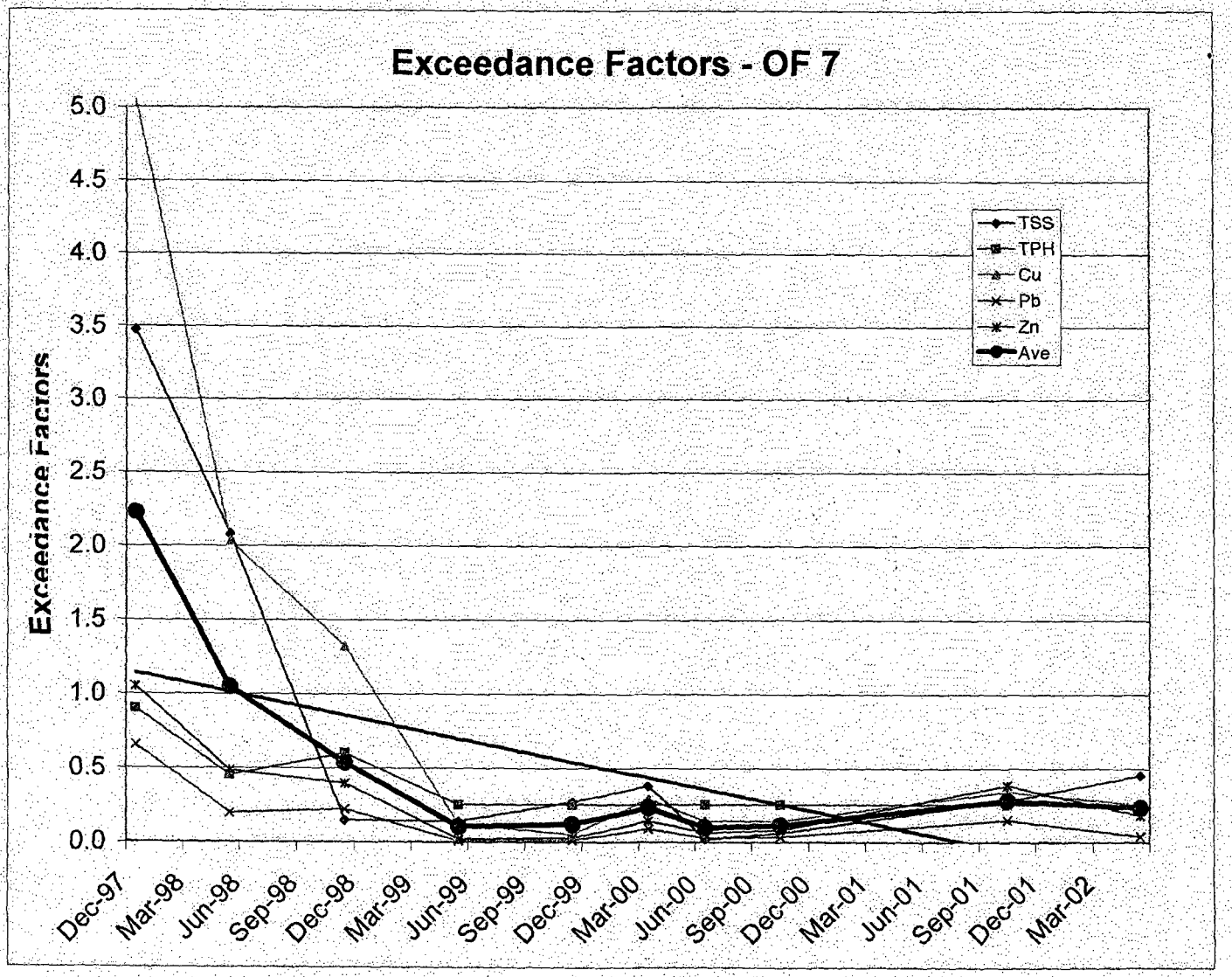

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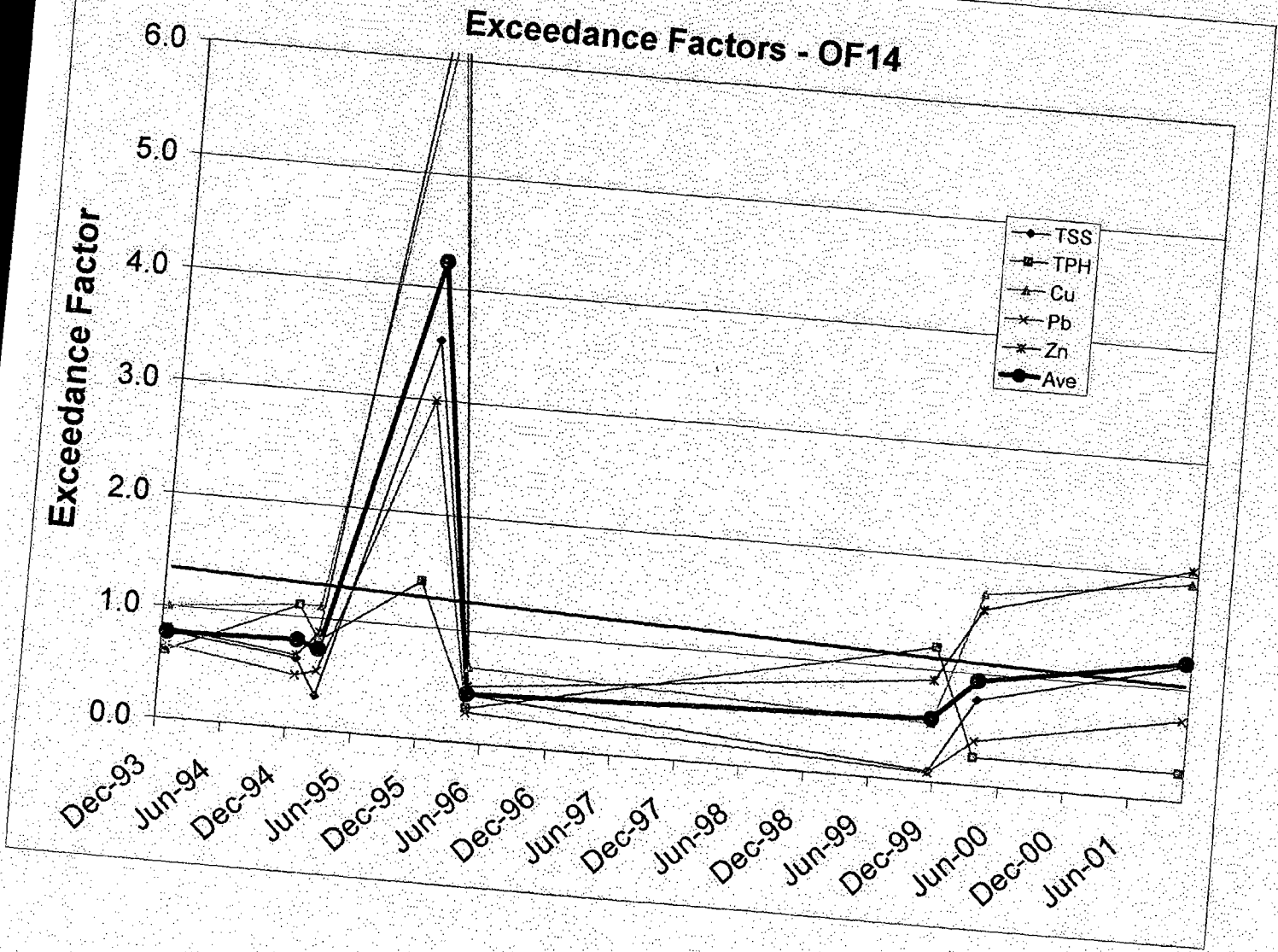

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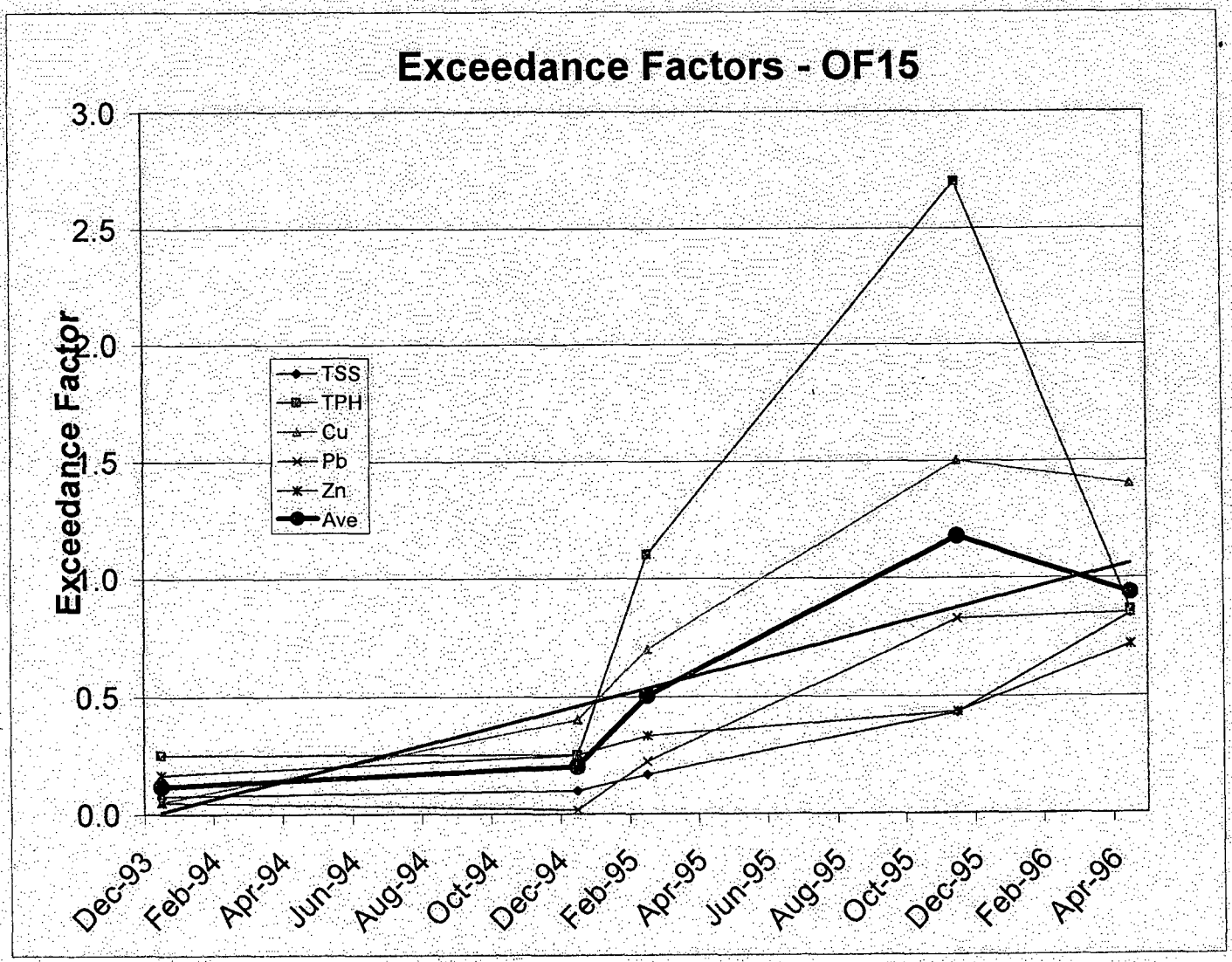

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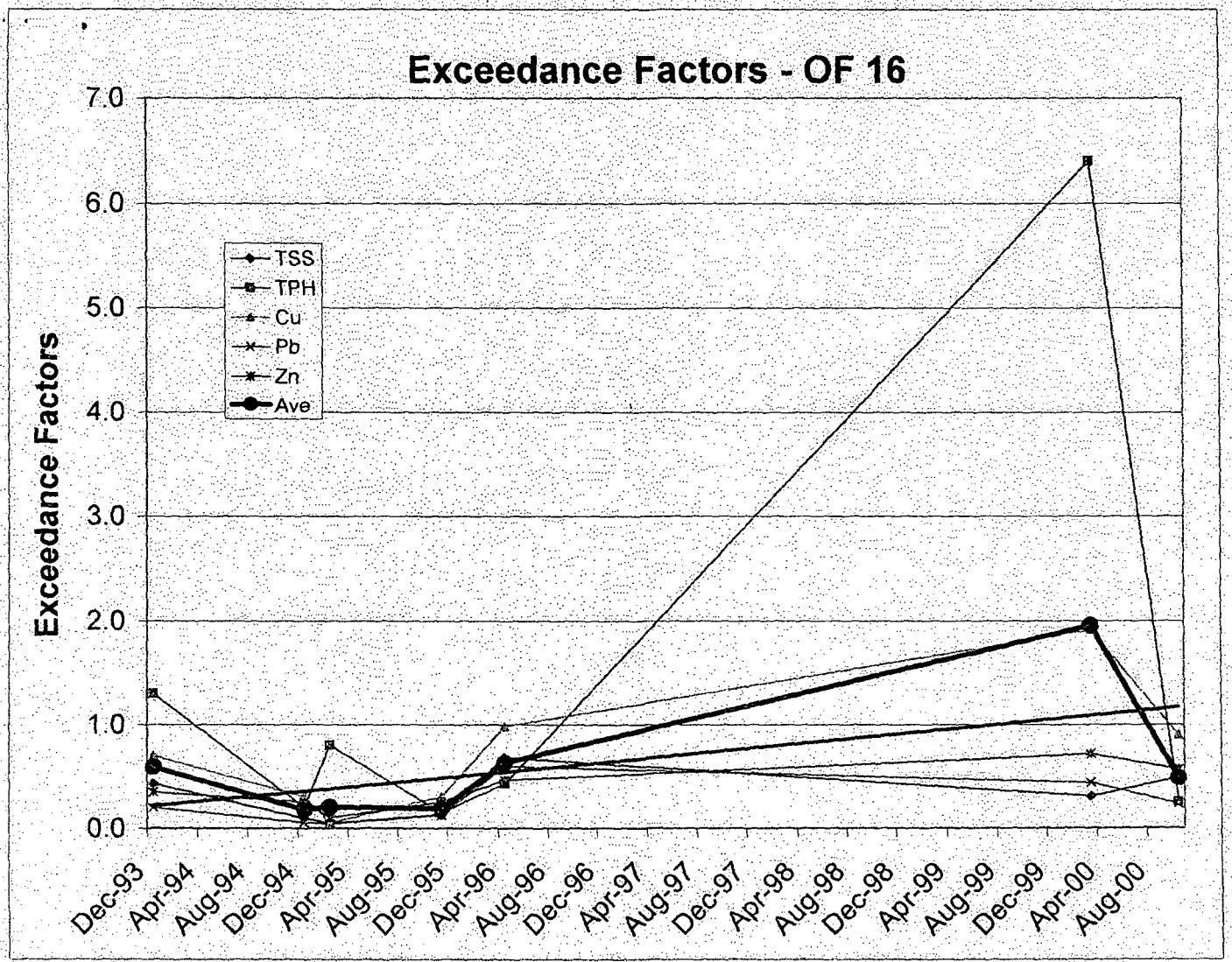

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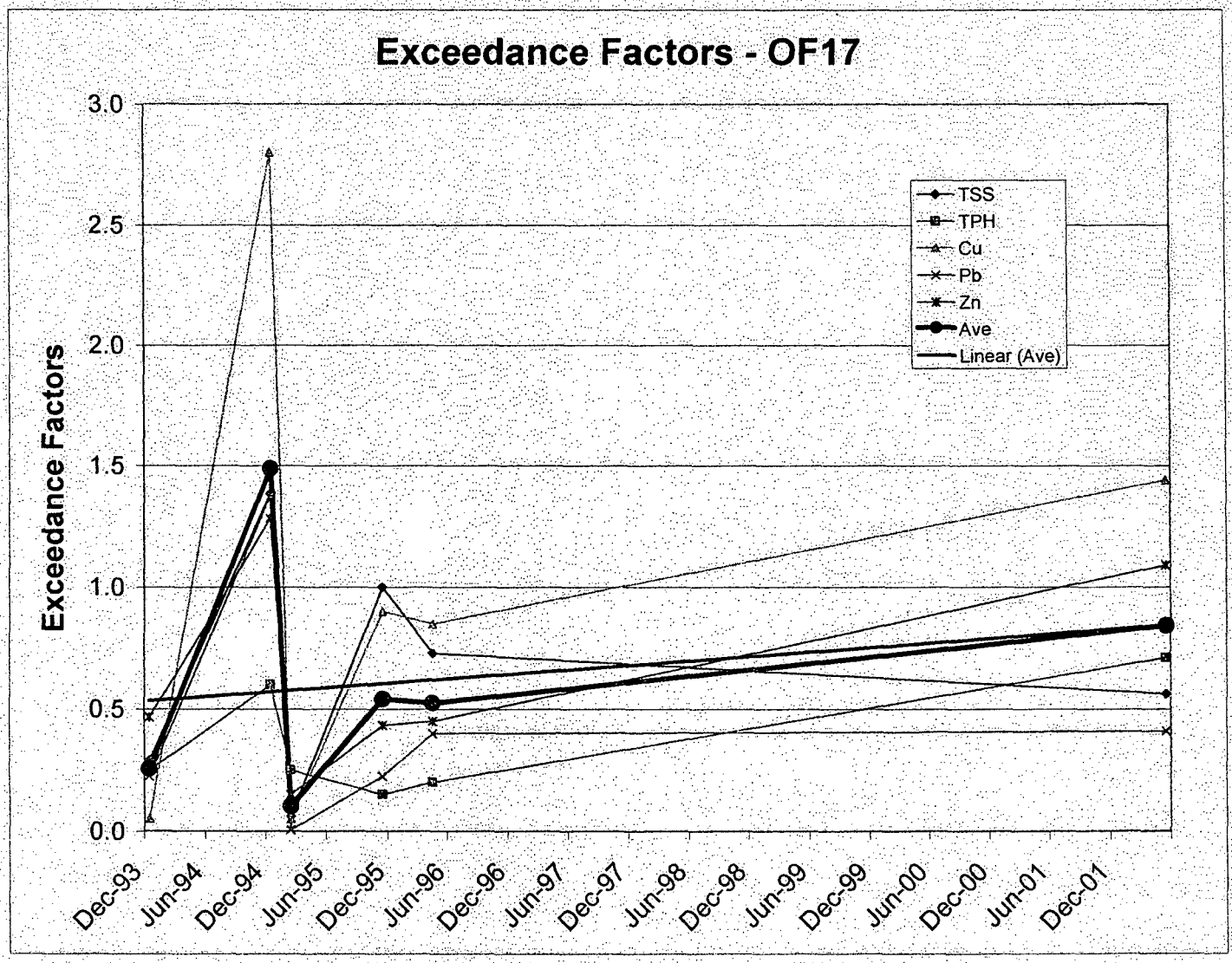

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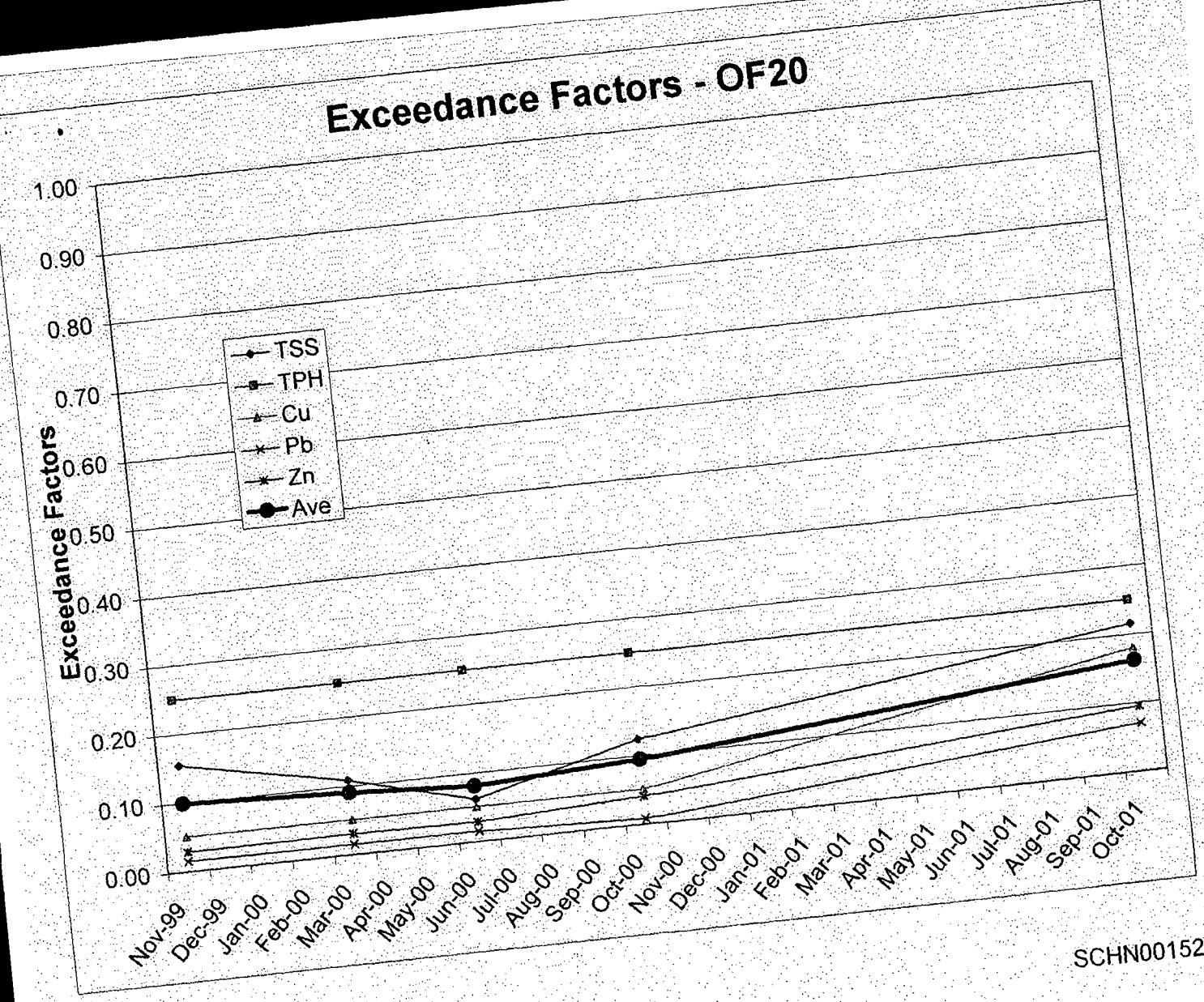

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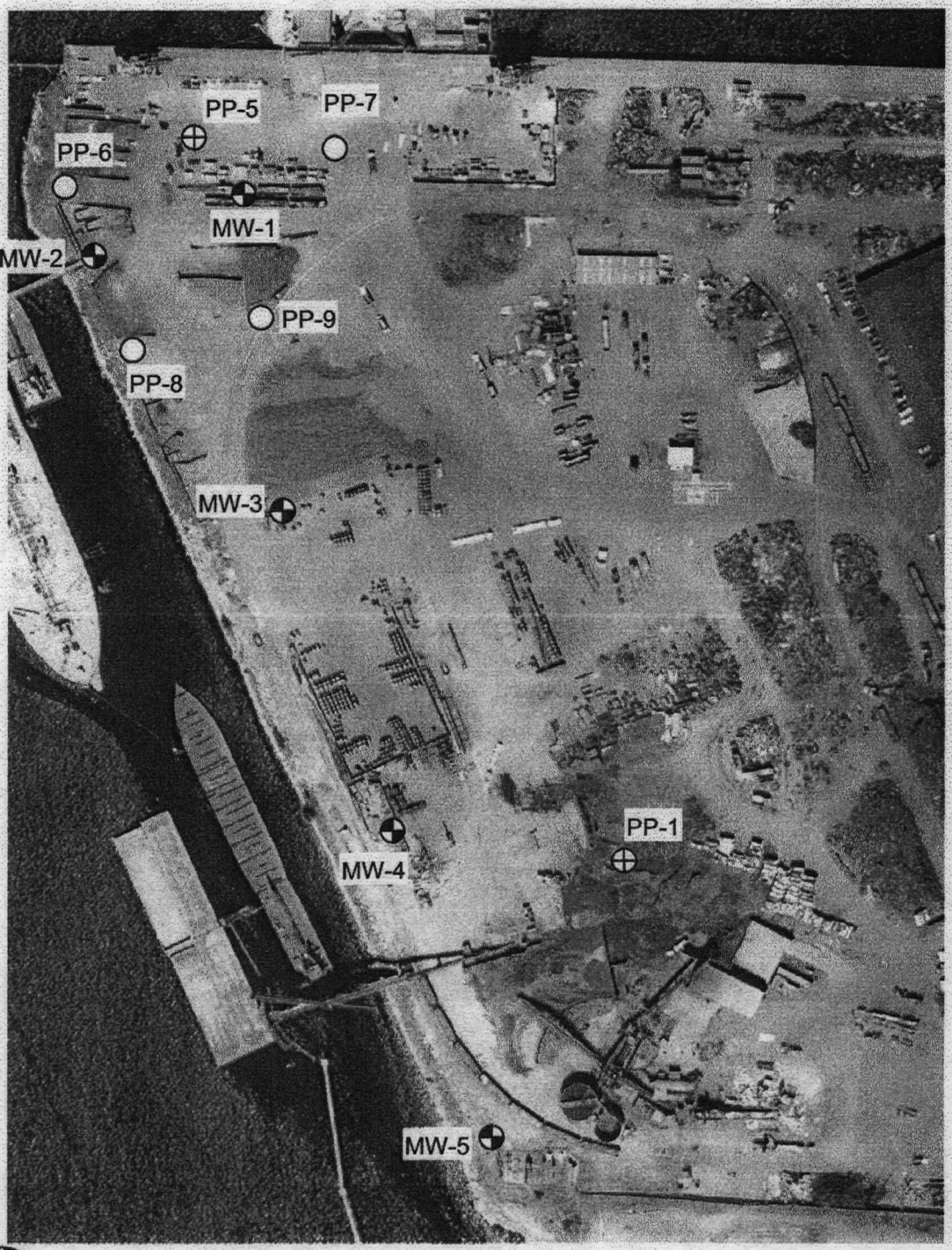

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Approximate Scale

220 feet

Monitoring Well

Phase I Push Probe

Phase II Push Probe

Figure 3
Monitoring Well and Push Probe Locations - SSI Area
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

Table 1
Groundwater Elevations in Monitoring Wells
Burgard Industrial Park

Monitoring Well	Ground Surface Elevation (ft)	Top of Casing Elevation (ft)	Date	Depth (ft)	GW Elev (ft) COP Datum
MW-01	28.40	28.02	1/27/2002	18.05	10.0
			3/23/2003	18.53	9.5
			4/15/2003	18.21	9.8
			4/28/2003	17.79	10.2
MW-02	27.80	27.39	1/27/2002	16.46	10.9
			3/23/2003	16.63	10.8
			4/15/2003	17.36	10.0
			4/28/2003	17.15	10.2
MW-03	27.60	27.27	1/27/2002	17.65	9.6
			3/23/2003	17.59	9.7
			4/15/2003	nm	nm
			4/28/2003	16.91	10.4
MW-04	28.40	28.03	1/27/2002	16.99	11.0
			3/23/2003	nm	nm
		27.93	4/15/2003	17.93	10.0
			4/28/2003	17.52	10.4
MW-05	28.80	28.34	1/27/2002	17.47	10.9
			3/23/2003	17.83	10.5
			4/15/2003	18.68	9.7
			4/28/2003	17.35	11.0
MW-06	28.80	28.31	1/27/2002	11.89	16.4
			3/23/2003	12.37	15.9
			4/15/2003	12.13	16.2
			4/28/2003	12.31	16.0
MW-07	35.88	35.47	1/27/2002	25.77	9.7
			3/23/2003	25.41	10.1
			4/15/2003	24.98	10.5
			4/28/2003	24.62	10.9

		Gauge[1] (ft)	COP Datum[2] (ft)
Willamette River	1/27/2002	8.75	11.68
	3/23/2003	7.95	10.88
	4/15/2003	7.00	9.93
	4/28/2003	6.40	9.33

1 - Willamette River gauge at Morrison Bridge
2 - COP Datum = Morrison St. Bridge Guage + 2.93

SCHN00152266

Table 2
Concentrations in Groundwater Samples
Volatile Organic Compounds
Burgard Industrial Park
All results in ug/l

Probe/ Well	Location	Date	cis-1,2,-Dichloroethe	Tetrachloroethene	1,1,1-Trichloroethan	Trichloroethene	Vinyl Chloride
MW01	Former NW Oil Tanks	1/28/2002	9.13	32.7	1 U	4.5	1.23
		3/23/2003	14.3	23.2	1 U	20.1	1.18
MW02	Shoreline, north end of site	1/28/2002	2.78	6.68	1 U	8.06	1 U
		3/23/2003	1.97	7.76	1 U	8.90	1 U
MW03	Shoreline, middle of site	1/27/2002	1 U	1 U	1 U	1 U	1 U
MW04	Shoreline, middle of site	1/27/2002	1 U	1 U	1 U	1 U	1 U
MW05	Shoreline, south end of site	1/27/2002	1 U	1 U	1 U	1 U	1 U
MW06	Outfall 1 plug area	1/28/2002	1 U	1 U	1 U	1 U	1 U
MW07	Southeast area	1/28/2002	1 U	1.91	1 U	1 U	1 U
		3/23/2003	1 U	1 U	1 U	1.27	1 U
PP02	WMW compressor	12/18/2001	1 U	1 U	1 U	1 U	1 U
PP03	Boydston oil storage area	12/18/2001	1 U	1 U	1 U	1 U	1 U
PP04	PBM wash pad	12/18/2001	1 U	1 U	1.23	1 U	1 U
PP05	Former NW Oil Tanks	12/18/2001	1 U	1 U	1 U	1 U	1 U
PW01	UST Pad	1/28/2002	1 U	1 U	1 U	1 U	1 U
PW03	PBM wash pad	1/28/2002	1 U	1.67	1 U	1.7	1 U
PW06	Southwest corner of site	1/27/2002	1 U	1 U	1 U	1 U	1 U
EPA Ambient Water Quality Criteria				8.85		81	525
DEQ Level II Surface Water SLV				240	11	21.9	1300

U - Not detected at noted reporting limit
"-" - Not analyzed
All VOCs not shown in table are not detected.

SCHN00152267

Table 3
Concentrations In Groundwater Samples
PAHs and Selected Semi Volatile Organic Compounds
Burgard Industrial Park
All results in ug/l

Probe/ Well	Location	Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	3,4-Methylphenol	Naphthalene	Phenanthrene	Pyrene
MW01	Former NW Oil Tanks	1/28/2002	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	-
MW02	Shoreline, north end of site	1/28/2002	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 U	5 U	5 U
MW03	Shoreline, middle of site	1/27/2002	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	18.4	2 U	5 U	5 U
		4/14/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		3/23/2003	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.10 U	0.10 U	0.10 U	-	0.10 U	0.10 U	0.10 U
		4/28/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	10 U	-	-	-
MW04	Shoreline, middle of site	1/27/2002	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 U	5 U	5 U
MW05	Shoreline, south end of site	1/27/2002	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 U	5 U	5 U
MW06	Outfall 1 plug area	1/28/2002	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 U	5 U	5 U
MW07	Southeast area	1/28/2002	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U	0.1 U	0.1 U	-	0.1 U	0.1 U	0.1 U
PW01	UST Pad	1/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 U	-	-
PW03	PBM wash pad	1/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 U	-	-
PW06	Southwest corner of site	1/27/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 U	-	-
EPA Ambient Water Quality Criteria			2700		1E+05	0.05	0.05	0.049		0.049	0.049	0.049	370	14000	0.049				11000
DEQ Level II Surface Water SLV			520		13	0.03	0.01						6.16	3.9			620	6.3	

U - Not detected at noted reporting limit
"-" - Not analyzed
All SVOCs not shown in table are not detected.

SCHN00152268

Table 4
Concentrations in Groundwater Samples
Total Metals
Burgard Industrial Park
All results in ug/l

Probe/ Well	Location	Date	Total Antimony	Total Arsenic	Total Barium	Total Cadmium	Total Chromium	Total Copper	Total Lead	Ttotal Mercury	Total Nickel	Total Zinc
MW01	Former NW Oil Tanks	3/23/2003	1.0 U	1.04	41.2	1.0 U	1.0 U	2.0 U	1.0 U	0.2 U	6.82	5.0 U
MW02	Shoreline, north end of site	1/28/2002	1.0 U	1.07	23.3	1.0 U	1.96	2.0 U	1.0 U	0.2 U	2.0 U	10.6
		3/23/2003	1.0 U	1.58	37.8	1.0 U	1.43	3.66	3.57	0.2 U	2.0 U	29.5
MW03	Shoreline, middle of site	1/27/2002	1.0 U	30.8	148	1.0 U	1.61	2.0 U	1.0 U	0.20	5.78	7.1
		3/23/2003	1.0 U	41.1	159	1.0 U	10.3	24.6	12.2	0.23	13.6	46.6
MW04	Shoreline, middle of site	1/27/2002	1.0 U	1.92	47.2	1.0 U	1.30	2.0 U	1.0 U	0.2 U	12.3	5.2
MW05	Shoreline, south end of site	1/27/2002	1.0 U	1.0 U	13.0	1.0 U	1.57	2.3	1.0 U	0.2 U	2.3	11.2
		3/23/2003	1.0 U	1.0 U	9.61	1.0 U	1.0 U	2.0 U	1.0 U	0.2 U	2.0 U	5.0 U
MW06	Outfall 1 plug area	1/28/2002	1.0 U	1.0 U	33.1	1.0 U	1.61	2.0 U	1.0 U	0.2 U	8.6	8.8
MW07	Southeast area	1/28/2002	1.0 U	1.20	64.7	1.0 U	1.83	2.0 U	1.0 U	0.2 U	4.9	5.0 U
		3/23/2003	1.0 U	3.18	106	1.0 U	5.33	9.24	3.53	0.2 U	6.42	20.8
EPA Ambient Water Quality Criteria			4300	0.14				1300		0.05	4600	69000
DEQ Level II Surface Water SLV			1600	150		2.2	0.21	9	2.5	0.77	52	120

U - Not detected at noted reporting limit
"-" - Not analyzed

SCHN00152269

Table 5
Concentrations in Groundwater Samples
Dissolved Metals
Burgard Industrial Park
All results in ug/l

Probe/ Well	Location	Date	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Cadmium	Dissolved Chromium	Dissolved Copper	Dissolved Lead	Dissolved Mercury	Dissolved Nickel	Dissolved Selenium	Dissolved Silver	Dissolved Thallium	Dissolved Zinc
MW01	Former NW Oil Tanks	1/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		3/23/2003	-	1 U	46.4	-	-	-	-	-	-	-	-	-	-
MW02	Shoreline, north end of site	1/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	6.3	-	-	1.1	-	-	-	-	-	-	-	-
		3/23/2003	-	1.0 U	27.4	-	1.0 U	-	1.0 U	-	-	-	-	-	-
MW03	Shoreline, middle of site	1/27/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	37.7	-	-	1.0 U	-	-	0.2 U	-	-	-	-	-
		3/23/2003	-	32.8	113	-	1.0 U	1.06	1.0 U	0.2 U	-	-	-	-	-
MW04	Shoreline, middle of site	1/27/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	11.4	-	-	1.0 U	-	-	-	-	-	-	-	-
		4/15/2003	-	6.29	77.6	-	-	-	-	0.2 U	-	-	-	-	-
MW05	Shoreline, south end of site	1/27/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
		3/23/2003	-	-	10.1	-	-	-	-	-	-	-	-	-	-
MW06	Outfall 1 plug area	1/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
MW07	Southeast area	1/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	6.1	-	-	1.0 U	-	-	-	-	-	-	-	-
		3/23/2003	-	1.64	65.3	-	1.0 U	1.61	1.0 U	-	-	-	-	-	-
EPA Ambient Water Quality Criteria			4300	0.14				1300		0.05	4600	69000			
DEQ Level II Surface Water SLV			1600	150		2.2	0.21	9	2.5	0.77	52	120	0.12	40	120

U - Not detected at noted reporting limit
"-" - Not analyzed
Samples with total metal concentrations greater than EPA ambient water quality critiera analyzed for dissolved metals.

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Table 1
Chemical Concentrations in Phase II RI Soil Samples
Petroleum Hydrocarbons
Burgard Industrial Park
All results in mg/kg

Sample	Location	Date	Sample Depth (ft)	Gasoline	Diesel	Heavy oil
PP06-06	Shoreline, north end of site	4/15/2003	6.0	20 U	50 U	100 U
PP06-10	Shoreline, north end of site	4/15/2003	10.0	20 U	50 U	100 U
PP06-14	Shoreline, north end of site	4/15/2003	14.0	20 U	42.6	198
PP06-17	Shoreline, north end of site	4/15/2003	17.0	20 U	50 U	100 U
PP08-06	Shoreline, north end of site	4/15/2003	6.0	20 U	50 U	100 U
PP08-10	Shoreline, north end of site	4/15/2003	10.0	20 U	50 U	100 U
PP08-14	Shoreline, north end of site	4/15/2003	14.0	20 U	50 U	100 U
PP08-18	Shoreline, north end of site	4/15/2003	18.0	20 U	50 U	100 U

U - Not detected at noted reporting limit

Table 2
Chemical Concentrations in Phase II RI Soil Samples
PAHs
Burgard Industrial Park
All results in mg/kg

Sample	Location	Date	Sample Depth (ft)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	LPAHs	HPAHs	Total PAHs
PP06-14	Shoreline, north end of site	4/15/2003	14.0	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.031	0.03 U	0.031	0.031
DEQ Sediment Screening Level Value (Toxicity)				0.29	0.16	0.057	0.032	0.032			0.027	0.057	0.033	0.111	0.077	0.017	0.176	0.042	0.053	0.06	0.193	1.61
DEQ Sediment Screening Level Value (Bioaccum)								0.1														
McDonald Consensus TECs						0.057	0.108	0.15				0.166	0.033	0.423	0.077		0.176	0.204	0.195			1.61
McDonald Consensus PECs						0.845	1.05	1.45				1.29		2.23	0.536		0.561	1.17	1.52			22.8
NOAA SQRT TEL							0.032	0.032				0.057		0.111				0.042	0.053			
EPA PRG (Industrial)				38000		1E+05	2.9	0.29	2.9		29	290	0.29	30000	33000	2.9	190		54000			

U - Not detected at noted reporting limit
"-" - Not analyzed

SCHN00152272

Table 3
Chemical Concentrations in Phase II RI Soil Samples
PCBs
Burgard Industrial Park
All results in mg/kg

Sample	Location	Date	Sample Depth (ft)	PCBs
PP06-06	Shoreline, north end of site	4/15/2003	6.0	0.067 U
PP06-10	Shoreline, north end of site	4/15/2003	10.0	0.067 U
PP06-14	Shoreline, north end of site	4/15/2003	14.0	0.067 U
PP06-17	Shoreline, north end of site	4/15/2003	17.0	0.067 U
PP08-06	Shoreline, north end of site	4/15/2003	6.0	0.232
PP08-10	Shoreline, north end of site	4/15/2003	10.0	0.067 U
PP08-14	Shoreline, north end of site	4/15/2003	14.0	0.0939
PP08-18	Shoreline, north end of site	4/15/2003	18.0	0.067 U

DEQ Sediment Screening Level Value (Toxicity)	0.034
DEQ Sediment Screening Level Value (Bioaccum)	
McDonald Consensus TECs	0.0598
McDonald Consensus PECs	0.676
NOAA SQRT TEL	0.0341
EPA PRG (industrial)	1
DEQ Generic Remedy (industrial)	7.5

U - Not detected at noted reporting limit
"-" - Not analyzed

Table 4
Chemical Concentrations in Phase II RI Soil Samples
Metals
Burgard Industrial Park
All results in mg/kg

Sample	Location	Date	Sample Depth (ft)	Arsenic	Cadmium	Copper	Lead	Zinc
PP06-06	Shoreline, north end of site	4/15/2003	6.0	2.46	0.342 U	20.2	5.86	55.3
PP06-10	Shoreline, north end of site	4/15/2003	10.0	2.09	0.41 U	16.8	3.69	52.4
PP06-14	Shoreline, north end of site	4/15/2003	14.0~	3.55	0.323 U	53.3	425	157
PP06-17	Shoreline, north end of site	4/15/2003	17.0	2.32	2.21 U	17.4	5.19	52.4
PP08-06	Shoreline, north end of site	4/15/2003	6.0	2.18	0.431 U	19.5	19.5	106
PP08-10	Shoreline, north end of site	4/15/2003	10.0	2.74	0.388 U	32.5	87.7	129
PP08-14	Shoreline, north end of site	4/15/2003	14.0	1.94	0.357 U	14.1	5.04	43.4
PP08-18	Shoreline, north end of site	4/15/2003	18.0	1.96	0.347 U	14.3	5.43	44

Clark County background values	6	1	34	17	96
Portland Harbor Sediment Baseline Value	5 U	0.6	60	30	118
DEQ Sediment Screening Level Value (Toxicity)	6	0.6	36	35	123
DEQ Sediment Screening Level Value (Bioaccum)	4	0.003	10	128	3
McDonald Consensus TECs	9.79	0.99	31.6	35.8	121
McDonald Consensus PECs	33	4.98	149	128	459
NOAA SQRT TEL	5.9	0.596	35.7	35	123
EPA PRG (industrial)	2.7	810	76000	750	10000

U - Not detected at noted reporting limit
"-" - Not analyzed

Table 5
Concentrations in Phase II RI Groundwater Samples
Volatile Organic Compounds
Burgard Industrial Park
All results in ug/l

Probe/ Well	Location	Date	cis-1,2,-Dichloroethe	Tetrachlorethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride
PP06	Shoreline, north end of site	4/15/2003	1.69	1 U	1 U	1.36	1 U
PP07	Former NW Oil Tanks	4/15/2003	1 U	1 U	1 U	1 U	1 U
PP08	Shoreline, north end of site	4/15/2003	1 U	1 U	1 U	1 U	1 U
PP09	Former NW Oil Tanks	4/15/2003	1 U	1 U	1 U	1 U	1 U
EPA Ambient Water Quality Criteria				8.85		81	525
DEQ Level II Surface Water SLV				240	11	21.9	1300

U - Not detected at noted reporting limit
"-" - Not analyzed
All VOCs not shown in table are not detected.

SCHN00152275

BRIDGEWATER GROUP, INC.

4500 SW Kruse Way; Suite 110
LAKE OSWEGO, OR 97035
TEL: (503) 675-5252
FAX: (503) 675-1960
rrieke@bridgeh2o.com

April 8, 2003

Ms. Alicia Voss
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201-4987

Subject: Quarterly Status Report
January through March 2003
Burgard Industrial Park RI Project

This letter presents the quarterly status report for the period January through March 2003 for the Burgard Industrial Park RI/FS project in Portland, Oregon.

Work Completed January through March 2003

- Submitted *Phase II RI Work Plan* to DEQ on February 7, 2003.
- Received comments from DEQ regarding August 8, 2002, *Enhanced Best Management Plan*, December 20, 2002, *Groundwater Monitoring Plan*, and February 7, 2003, *Phase II RI Work Plan* in a letter dated February 25, 2003.
- Submitted *Revised Groundwater Monitoring Plan* to DEQ on March 17, 2003.
- Preformed groundwater monitoring on March 23, 2003.
- Submitted *DEQ Information Request* to DEQ on March 25, 2003.

Activities Planned April through June 2003

- Repair and redevelop groundwater monitoring well MW-4.
- Perform Phase II RI soil and groundwater sampling on April 15, 2003.
- Review existing BMPs as part of the EBMP program.
- Submit results of groundwater monitoring to DEQ.
- Submit results of Phase II RI to DEQ.
- Prepare quarterly status report.

Sampling, Test Results, and Other Data Generated January through March 2003

Sampling, test results, and other data generated during January through March 2003 were or will be presented in data reports prepared for each sampling event.

Problems Experienced January through March 2003

No problems were encountered during January through March 2003.

Please call if you have any questions.

Sincerely,

BRIDGEWATER GROUP, INC.

Ross D. Rieke, P.E.
Vice President
Environmental Consultant

cc: Mat Cusma/Schnitzer

Floyd Snider McCarthy, Inc.
Strategy & Technical Solutions for Contaminated Properties
83 South King Street Suite 614 Seattle, Washington 98104 tel: 206.292.2078 fax 206.682.7867

March 3, 2003

Alicia Voss
Voluntary Cleanup Program
Northwest Region
2020 SW Fourth Ave. Suite 400
Portland, OR 97204

SUBJECT: SCHNITZER INTERNATIONAL TERMINAL: NOTICE OF FUTURE SEDIMENT SAMPLING, MARCH 11TH AND 12TH 2003

Dear Ms. Voss:

Floyd Snider McCarthy (FSM) has been retained by Schnitzer Steel Inc., to perform sediment sampling in advance of future maintenance dredging at the International Terminal located in Portland. The purpose of this sampling event is to generate data that can be used to estimate the dredge sediment quality that would result from the proposed dredging of Berths 1 through 5 at International Terminal. Berths 1 through 3 are located within the International Terminal slip adjacent to the Burgard Yard; Berths 4 and 5 are located on the Willamette River side of the facility.

Data generated during this sampling event will be used to evaluate sediment quality consistent with the suggested analyte list found in the Dredged Material Evaluation Framework for the Lower Columbia River Management Area. It is anticipated that this data will be used during the drafting of a joint permit application for this berth maintenance dredging. The permit application is tentatively scheduled for submission to the U.S. Army Corps of Engineers in Spring 2003.

This sampling event is currently planned for March 11 and 12, 2003.

We would be happy to answer any questions you have related to this sampling. Please contact me at (206) 292-2078 or Jim Jakubiak at (503) 286-6976.

Sincerely yours,
Floyd Snider McCarthy, Inc.

Allison D. Geiselbrecht, Ph.D., Senior Scientist
Copies: Jim Jakubiak, Teri A. Floyd

BRIDGEWATER GROUP, INC.

Revised Groundwater Monitoring Plan
Burgard Industrial Park

TO: Alicia Voss/DEQ

COPY: Mat Cusma/Schnitzer

FROM: Ross Rieke/Bridgewater Group

DATE: March 17, 2003

This memorandum presents the revised groundwater monitoring plan for the Burgard Industrial Park in Portland, Oregon. This plan is revised from the December 20, 2002, plan based on comments received from the Oregon Department of Environmental Quality (DEQ) in a letter dated February 25, 2003.

Seven groundwater monitoring wells were installed for the Phase I Remedial Investigation (RI) at the site. Chemical analysis of groundwater samples collected in early 2002 noted concentrations of organic compounds less than surface water quality criteria and concentrations of metals similar to regional background levels. The results of the Phase I RI are presented in a May 16, 2002, *Phase I Remedial Investigation Report*. In a letter dated October 17, 2002 and during a meeting on November 14, 2002, DEQ requested that Schnitzer perform periodic groundwater monitoring to confirm the groundwater conditions noted in the Phase I RI sampling.

The purpose of the groundwater monitoring program is to assess:

- Any seasonal trends in the relative groundwater elevations at the site and;
- Confirm the lack of concentrations of hazardous substances at concentrations greater than surface water quality criteria or regional background concentrations in wells near the Willamette River.

Following from these stated goals, the groundwater monitoring program will consist of two elements:

- Groundwater elevation measurements
- Groundwater sampling and analysis

Each of these elements is discussed below.

Groundwater Elevation Measurements

Groundwater elevations will be determined in the seven groundwater monitoring wells installed for the Phase I RI to assess any seasonal trends in the relative groundwater elevations at the site. The depth to the groundwater in the wells will be measured using an electronic meter to a precision of 0.01 foot. The groundwater depth measurements will be performed in a shortest period as practicable to reduce the potential for rapidly changing river levels to affect the relative groundwater depths between wells measured at the start of the sampling round and those measured at the end of the sampling round. The groundwater

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elevations will be determined based on the surveyed elevations of the wells as presented in the RI report. The Willamette River level in the Portland Harbor at the start and end of the sampling event will be noted from the US Army Corps of Engineers internet web site.

The groundwater elevations will be determined quarterly (every three months) starting in March 2003. This frequency will capture the typical wet weather/dry weather and high river/low river cycles.

Groundwater Sampling and Analysis

Groundwater samples will be collected from selected groundwater monitoring wells to confirm the lack of concentrations of hazardous substances at concentrations greater than surface water quality criteria or regional background concentrations in wells near the Willamette River. The specific wells that will be sampled and the analytes included in the laboratory analysis are based on the results of the RI groundwater sampling and analysis. Table 1 presents the wells to be sampled, the analysis to be performed, and the basis for their selection.

SCHN00152281

TABLE 1
Groundwater Sampling and Analysis Program
Burgard Industrial Park

Monitoring Well	Analytes	Basis - Phase I RI Results
MW-1	VOCs	VOC concentrations greater than surface water quality criteria.
	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	Total arsenic, chromium concentrations greater than water quality criteria in nearby wells.
MW-2	VOCs	In pathway from MW-1 to Willamette River. (No VOCs were detected at concentrations greater than surface water quality criteria in MW-2 during Phase I RI sampling.)
	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	Total arsenic, chromium concentrations greater than water quality criteria.
MW-3	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	Total arsenic, chromium concentrations greater than water quality criteria.
	SVOCs	As requested by DEQ, due to low concentration of 3-4, methylphenol.
MW-4	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	Total arsenic, chromium concentrations greater than water quality criteria.
MW-5	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	Total chromium concentrations greater than water quality criteria.
MW-7	VOCs	As requested by DEQ, due to low concentrations in Phase I sample and in samples from adjacent Northwest Pipe site.
	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	As requested by DEQ, due to total arsenic and chromium concentrations greater than water quality criteria.

The groundwater samples will be collected twice per year. Once during typical high groundwater/high river levels (March) and once during typical low groundwater/low river level (September or October). The groundwater samples will be collected using the same procedures and equipment, including field parameter measurements, used during the Phase I RI. The laboratory analysis methods will be the same as for the Phase I RI.

Reporting and Assessment of Groundwater Monitoring Program

A brief letter report will be prepared after each groundwater sampling round and results are received from the analytical laboratory (i.e. twice per year). Results from the two rounds of groundwater level measurements performed in the report period will be included in the report.

SCHN00152282

A report will be prepared after one year of groundwater monitoring presenting an assessment of the groundwater monitoring results and the appropriateness of additional groundwater monitoring. Results of the one year of groundwater monitoring will be assessed for the following:

- Groundwater flow directions and gradients consistent with the Phase I RI results.
- Contaminant concentrations in the two sampling rounds consistent with the concentrations measured in the Phase I RI.

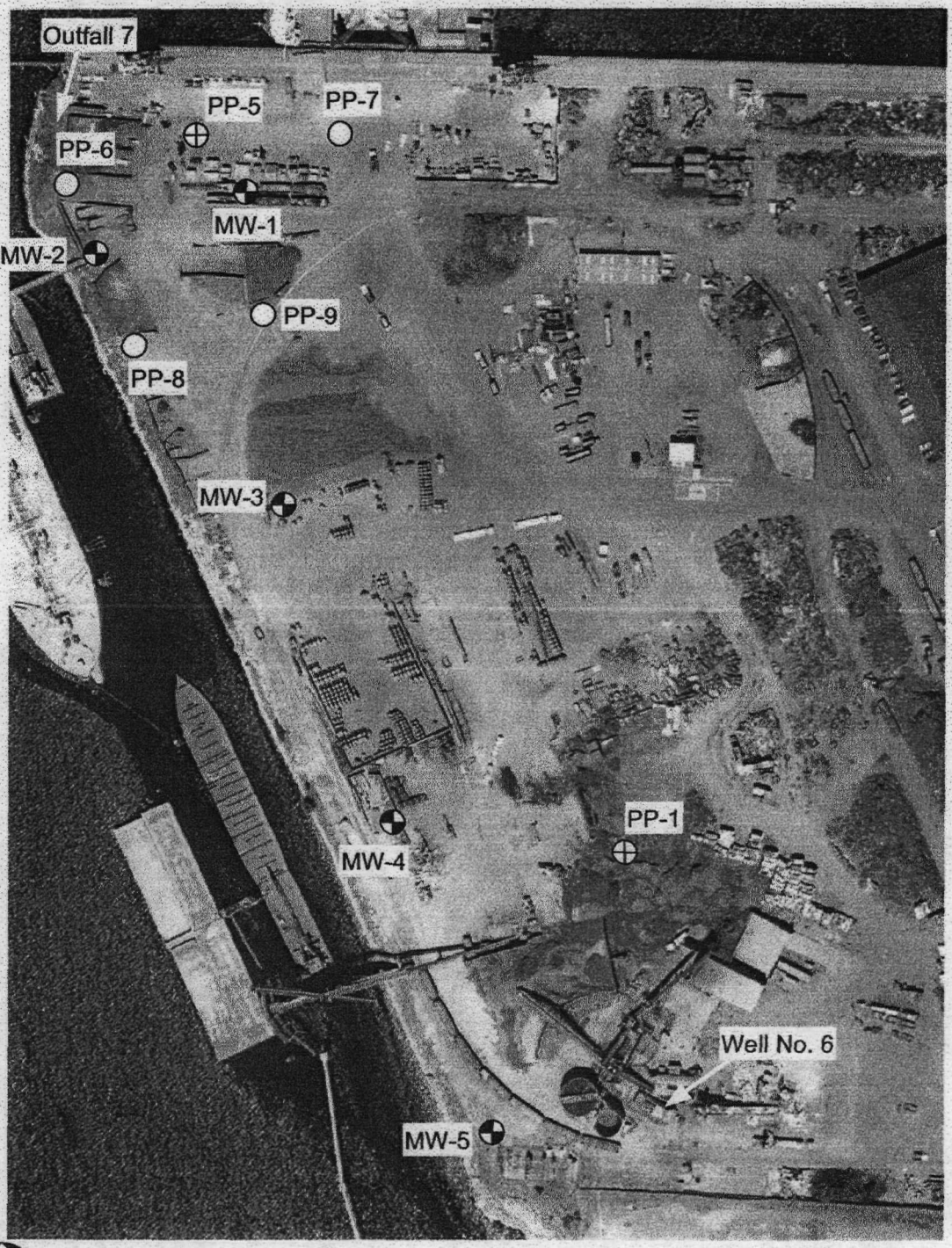
If these two conditions are demonstrated by the one year of groundwater monitoring, the groundwater monitoring will be discontinued.

Schedule

The first round of groundwater level measurements and groundwater sampling is scheduled for March 23, 2003.

Please call if you have any questions.

SCHN00152283



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Approximate Scale

220 feet

Monitoring Well

Push Probe

Proposed Phase II Push Probe

Figure 2
Proposed Phase II Explorations
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

Oregon
Theodore Kulongoski., Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

February 25, 2003

Mathew Cusma
Schnitzer Investment Corp.
P.O. Box 10047
Portland, Oregon 97296-0047

RE: DEQ Review Comments
Schnitzer Burgard Industrial Park

Dear Mr. Cusma:

The Department of Environmental Quality (DEQ) completed its review of the:

- August 8, 2002 *Enhanced Best Management Practices, Storm Water Source Control Plan,*
- December 20, 2002 *Groundwater Monitoring Plan*, and
- February 7, 2003 *Phase II Work Plan*

for the Schnitzer Burgard Industrial Park at 12005 North Burgard Road in Portland. Bridgewater Group, Inc. (BGI) submitted the documents on behalf of Schnitzer Investment Corp. (SIC).

Review Comments

1. *Enhanced Best Management Practices, Storm Water Source Control Plan.*

DEQ and SIC representatives discussed the August 2002 submittal to address the evaluation of the facility storm water system in a meeting in November 2002. Shortly after the November meeting DEQ indicated that it would approve the general approach to the evaluation of the storm water system. The following comments are requests for further clarification on the system evaluation and/or are to be incorporated into the *Storm Water Source Control Plan.*

Section 1.2.1. Although the results of the groundwater investigation are encouraging in the lack of significant detected contaminant concentration, it would be premature to state that hazardous substances are not migrating to the river because the groundwater investigation is ongoing. Another statement in this section indicates that there are "no effective and accurate methods to assess whether storm water is truly a current pathway of concern." This statement does not reflect that storm water monitoring at the facility generally has routinely documented exceedances of permit benchmarks at many of the facility outfalls over a period of years. Based on the storm water monitoring, DEQ agrees that enhanced best management practices (EBMPs) are an appropriate next step to attempt source control at the facility.

Section 1.2.3. DEQ requests further clarification on the facility outfalls selected for the EBMP review. The following list includes all the DEQ-known outfalls, the apparent SIC or tenant connection, SIC monitoring history, and perceived data gap. Please review the list, identify any inconsistencies between DEQ information and your records, and provide additional discussion where requested.

Oufalls (OF)	**SIC/Tenant Connection**	**Monitoring History**	**Data Gap**
Outfall 1	SIC/NW Pipe until 2002	None. Broken pipe repaired in 2002.	None
Outfalls 2 through 7	SIC only	1200R and 1200Z since 1993	None
Outfall 8	SIC only	Monitored in 1998 and 1999. Now indicated as remnant and not monitored.	Please provide information on the current status of this outfall.
Outfalls 9 and 10	SIC only	1200R monitoring only in 1993/94. OF-9 is now indicated as remnant and not monitored.	Provide additional information on the current status and proposed evaluation of these two outfalls.
Outfalls 11 and 12	SIC only	1200R monitoring from 1993 to 1996. Both now marked as remnant outfalls.	Please provide information on the current status of the outfalls.
Outfall 13	SIC only	No monitoring record for OF-13.	Please provide information on the current status of OF-13.
Outfall 14	SIC only	1200R and 1200Z monitoring from 1993 to present.	None
Outfall 15	SIC only	1200R monitoring from 1993 to 1996	Please provide current status of OF-15
Outfall 16	SIC and CalBag Metals	2002 1200Z permit for CalBag Metals. 1200R monitoring from 1993 to 1996.	Provide rationale for excluding OF-16 from the evaluation.
Outfall 17	SIC only	1200R and 1200Z monitoring from 1993 to 2002. Now marked as remnant.	Provide rationale for excluding OF-17 from the evaluation.

DEQ-DC1

Oufalls (OF)	SIC/Tenant Connection	Monitoring History	Data Gap
Outfall 18	NW Pipe and Ryerson	Monitored by NW Pipe. Monitored by SIC from 1993 to 1995.	None
Outfall 19	SIC only	No monitoring data	Provide information on lack of 1200Z monitoring data.
Outfall 20	SIC only	1200Z monitoring data from 2000 to 2002	None
Outfall 21	Jefferson Smurfit	1200Z monitoring	None
Outfall 22	Boydstun and Romar	1200Z monitoring	None
Outfalls 23 and 24	Jefferson Smurfit	1200Z monitoring	None

Section 2.4.2. Please include the 1200R (prior to the 1200Z in 1996) monitoring data in the data review. Discuss other contaminants of interest (COIs) on the site, their potential to enter site storm water, and the likely relevance of indicator parameters in relation to other COIs.

Section 4.1. As we discussed in our November 2002 meeting DEQ will require storm water monitoring in addition to that which is required under the 1200Z permit for the facility in order to evaluate the effluent for all COIs. The system evaluation after the implementation of new BMPs should include a list of additional monitoring parameters, the anticipated timing of the sampling with attempts to capture "first flush" storm water samples, and the proposed number of sampling events. The storm water monitoring for the additional parameters may be able to demonstrate whether or not the 1200Z analyte list serves to adequately identify COIs that may be migrating from the facility to the river. SIC should be able to demonstrate through sampling and analysis whether oil and grease analysis is an adequate surrogate for polycyclic aromatic hydrocarbons (PAHs), and copper, lead, and zinc are adequate surrogates for other metal COIs.

Section 4.2. DEQ and SIC will discuss the interpretation of the analysis and interpretation of the monitoring results after implementation of the EBMPs.

2. *Groundwater Monitoring Plan.*

SIC proposes to monitor groundwater conditions at five (MW-1 through MW-5) of seven well locations at the industrial park. Please include MW-7 in the monitoring plan due to past detections of VOCs and metals, and because of its location in a possible upgradient/cross gradient direction.

Analysis for SVOCs should be included at MW-3 due to the previous detection of 3-4, methylphenol. If this compound is not confirmed in subsequent analysis, it may be eliminated from further analysis suites.

DEQ-DC1

Analysis for total and dissolved metals (include the metals that were analyzed in the first sampling event) should be repeated for the next sampling event at a minimum. If results are consistent with the initial sampling event, SIC may make an argument to modify the metals analysis.

Semi-annual groundwater sampling and quarterly water level monitoring are approved but may be modified based on the results of the next sampling event if results are significantly different than the initial sampling round. A decision to discontinue groundwater monitoring will be made after the data have been collected and reviewed.

3. *Phase II Work Plan.*

DEQ approves the work plan as submitted but suggests that if field screening indicates evidence of soil contamination, additional soil samples should be collected for laboratory analysis in addition to the sample proposed to be collected at the water table.

Conclusions

Please contact me to resolve the remaining outfall data gaps outlined in this letter. Resubmitting the work plans is not required. Please provide a schedule to complete the additional site characterization and storm water system evaluation by March 19, 2003. DEQ assumes that the groundwater monitoring will begin in March/April 2003 as indicated in the work plan. Please provide advance notice to DEQ prior to conducting the additional site characterization and ground water monitoring as required by the Agreement. Additionally, please begin quarterly report submittals in April 2003 for the first quarter of 2003. I can be reached at 503-229-5011 if you have any questions.

Sincerely,

Alicia C. Voss, Project Manager
Cleanup and Portland Harbor

cc: Tom Roick, Jim Anderson, NWR/DEQ
Ross Rieke, Bridgewater Group, Inc.

DEQ-DC1

BRIDGEWATER GROUP, INC.

DEQ Information Request
Burgard Industrial Park

TO: Alicia Voss/DEQ

COPY: Mat Cusma/Schnitzer

FROM: Ross Rieke/Bridgewater Group

DATE: March 25, 2003

This memorandum presents information you requested in a February 25, 2003 letter regarding the Burgard Industrial Park in Portland, Oregon. Your letter requested the following:

- Information on storm water outfalls at the Burgard Industrial Park.
- Schedule for implementation of the Enhanced Best Management Practices (EBMP) program at the site.
- Schedule for the Phase II remedial investigation sampling and analysis.

This letter also transmits to you an updated *Storm Water Pollution Control Plan* for the Schnitzer Steel/International Terminal portion of the Burgard site.

Storm Water Outfall Status

Your letter requested additional information on several of the storm water outfalls at the Burgard Industrial Park site. The attached Table 1 addresses your identified data gaps.

As you are aware, Schnitzer continues to upgrade and improve the storm water management system at the Burgard site. Numerous improvements have been implemented since the submission of the December 21, 2000, *Storm Water System Assessment* report. Sand filters and coalescing oil/water separator treatment systems have been added, remnant outfalls have been positively identified and sealed, and Outfall 1 has been repaired. Schnitzer also continues to improve the Best Management Practices (BMPs) at the site.

In accordance with the NPDES General Storm Water Permit, Schnitzer has prepared a revised *Storm Water Pollution Control Plan* for the Schnitzer Steel/International Terminal portion of the Burgard site reflecting these improvements. The plan also reflects increased understanding of the overall storm water collection and conveyance system obtained during the performance of the remedial investigation and during the design and construction of the recent improvements. A copy of the updated storm water plan is enclosed and includes a drawing showing the current drainage areas and associated treatment systems and outfalls.

Based on the recent changes to the storm water system and additional information regarding its configuration, the following outfalls will be included in the EBMP program,

Outfall 1	Outfall 2	Outfall 3A	Outfall 4A
Outfall 5A	Outfall 6A	Outfall 10	Outfall 13
Outfall 14	Outfall 15	Outfall 19	Outfall 20

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Other DEQ Comments on EBMP Program

Your February 25, 2003 letter also provided several comments regarding the EBMP program. These comments pertained to the following:

- The potential for contaminants to be migrating from the site to the river.
- Appropriateness of using NPDES benchmark values to assess the potential for storm water runoff to be a pathway of concern.
- Dataset to be used in the assessment of to-date storm water monitoring data.
- Specifics of the storm water monitoring to be performed during the EBMP program.

These issues and comments will be addressed in the various documents and deliverables to be prepared during the implementation of the EBMP program.

EBMP Implementation Schedule

The attached Gant chart shows the anticipated schedule for the EBMP program. Consistent with the EBMP plan, the initial tasks will consist of identifying and assessing the effectiveness of the existing BMPs at the site. This process includes reviewing the storm water monitoring data collected to date. The results of this review will be presented in a report to DEQ this summer with a meeting shortly after with DEQ to discuss the next steps in the EBMP program. Identification, assessment, and implementation/construction of any additional BMPs are anticipated during Fall 2003 and Winter and Spring 2004.

Phase II RI Schedule

We are planning to perform the Phase II RI field explorations on April 17. A brief memorandum presenting the results of the Phase II sampling and analysis will be provided by May 23, 2003.

Please call if you have any questions.

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Table 1
DEQ Requested Storm Water Outfall Information
Burgard Industrial Park Remedial Investigation

Oufalls (OF)	Monitoring History	DEQ Data Gap	Response to Data Gap
Outfall 8	Monitored in 1998 and 1999. Now indicated as remnant and not monitored.	Please provide information on the current status of this outfall.	OF8 was a remnant and has recently been cut and grouted. The monitoring data labeled "OF8" are actually blind duplicates of samples collected from other outfalls (OF7 in 1998 and OF4 in 1999)
Outfalls 9 and 10	1200R monitoring only in 1993/94. OF-9 is now indicated as remnant and not monitored.	Provide additional information on the current status and proposed evaluation of these two outfalls.	OF9 was a remnant and has recently been cut and grouted. The monitoring data attributed to OF9 in 1993 is believed to be actually from OF10. OF10 has not been sampled since 1994 based on the presumption that OF7 is representative of the discharge at OF10 (NPDES general storm water permit condition B.1.c).
Outfalls 11 and 12	1200R monitoring from 1993 to 1996. Both now marked as remnant outfalls.	Please provide information on the current status of the outfalls.	OF11 is a remnant of the shipyard drainage system and is no longer connected to any catch basins and does not discharge storm water. OF12 was a remnant outfall and has recently been cut and grouted. It is not known what the data labeled "OF11" and "OF12" during 1993 to 1996 represents.
Outfall 13	No monitoring record for OF-13.	Please provide information on the current status of OF-13.	OF13 is a functioning outfall draining Basin 13 located on the slip (See Drawing 1 in the updated Stormwater Pollution Control Plan). OF13 is not sampled based on the presumption that OF7 is representative of the discharge at OF13 (NPDES general storm water permit condition B.1.c).
Outfall 15	1200R monitoring from 1993 to 1996	Please provide current status of OF-15	OF15 is a functioning outfall draining Basin 15 located on the slip (See Drawing 1 in the updated Stormwater Pollution Control Plan). OF15 has not been sampled since 1996 based on the presumption that OF7 is representative of the discharge at OF10 (NPDES general storm water permit condition B.1.c).
Outfall 16	2002 1200Z permit for CalBag Metals. 1200R monitoring from 1993 to 1996.	Provide rationale for excluding OF-16 from the evaluation.	OF16 includes discharges from the CalBag Metals area which are subject to their storm water permit. The EBMP program is focused toward those outfalls the Schnitzer has sole control over.
Outfall 17	1200R and 1200Z monitoring from 1993 to 2002. Now marked as remnant.	Provide rationale for excluding OF-17 from the evaluation.	OF11 is a remnant of the shipyard drainage system and is no longer connected to any catch basins and does not discharge storm water. The 2002 monitoring sample is believed to have actually been collected from OF 16. It is not known what the data labeled "OF17" during 1993 to 1996 represents.
Outfall 19	No monitoring data	Provide information on lack of 1200Z monitoring data.	Monitoring data from OF20 is presumed to be representative of the discharge from OF19.

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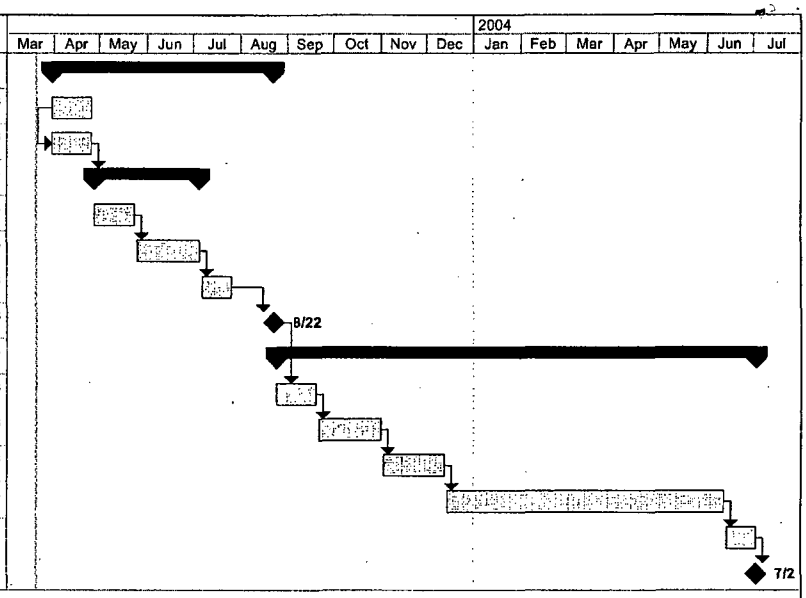
ID	Task Name	Duration
1	**Review Current BMPs**	**21 wks**
2	Develop list of operational BMPs	4 wks
3	Develop list of structural BMPs	4 wks
4	**Assess Current BMP effectiveness**	**10 wks**
5	Confirm implementation effectiveness	4 wks
6	Review storm water monitoring data	6 wks
7	BMP review report	3 wks
8	Meet with DEQ to discuss next steps	0 wks
9	**Identify, Assess, and Implement Added BMPs**	**45 wks**
10	Identify and assess potential BMPs	4 wks
11	Design additional BMPs	6 wks
12	Construct/implement additional BMPs	6 wks
13	Monitor effectiveness of additional BMPs	26 wks
14	Additional BMP report	3 wks
15	Meet with DEQ to discuss next steps	0 wks



Project: Burgard Industrial Park EBMP
Date: Thu 3/20/03

Task		Summary		*Rolled Up Milestone	
Split		Project Summary		*Rolled Up Progress	
Progress		*Rolled Up Task		External Tasks	
Milestone		*Rolled Up Split			

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BRIDGEWATER GROUP, INC.

Revised Groundwater Monitoring Plan
Burgard Industrial Park

TO: Alicia Voss/DEQ

COPY: Mat Cusma/Schnitzer

FROM: Ross Rieke/Bridgewater Group

DATE: March 17, 2003

This memorandum presents the revised groundwater monitoring plan for the Burgard Industrial Park in Portland, Oregon. This plan is revised from the December 20, 2002, plan based on comments received from the Oregon Department of Environmental Quality (DEQ) in a letter dated February 25, 2003.

Seven groundwater monitoring wells were installed for the Phase I Remedial Investigation (RI) at the site. Chemical analysis of groundwater samples collected in early 2002 noted concentrations of organic compounds less than surface water quality criteria and concentrations of metals similar to regional background levels. The results of the Phase I RI are presented in a May 16, 2002, *Phase I Remedial Investigation Report*. In a letter dated October 17, 2002 and during a meeting on November 14, 2002, DEQ requested that Schnitzer perform periodic groundwater monitoring to confirm the groundwater conditions noted in the Phase I RI sampling.

The purpose of the groundwater monitoring program is to assess:

- Any seasonal trends in the relative groundwater elevations at the site and;
- Confirm the lack of concentrations of hazardous substances at concentrations greater than surface water quality criteria or regional background concentrations in wells near the Willamette River.

Following from these stated goals, the groundwater monitoring program will consist of two elements:

- Groundwater elevation measurements
- Groundwater sampling and analysis

Each of these elements is discussed below.

Groundwater Elevation Measurements

Groundwater elevations will be determined in the seven groundwater monitoring wells installed for the Phase I RI to assess any seasonal trends in the relative groundwater elevations at the site. The depth to the groundwater in the wells will be measured using an electronic meter to a precision of 0.01 foot. The groundwater depth measurements will be performed in a shortest period as practicable to reduce the potential for rapidly changing river levels to affect the relative groundwater depths between wells measured at the start of

SCHN00152293

the sampling round and those measured at the end of the sampling round. The groundwater elevations will be determined based on the surveyed elevations of the wells as presented in the RI report. The Willamette River level in the Portland Harbor at the start and end of the sampling event will be noted from the US Army Corps of Engineers internet web site.

The groundwater elevations will be determined quarterly (every three months) starting in March 2003. This frequency will capture the typical wet weather/dry weather and high river/low river cycles.

Groundwater Sampling and Analysis

Groundwater samples will be collected from selected groundwater monitoring wells to confirm the lack of concentrations of hazardous substances at concentrations greater than surface water quality criteria or regional background concentrations in wells near the Willamette River. The specific wells that will be sampled and the analytes included in the laboratory analysis are based on the results of the RI groundwater sampling and analysis. Table 1 presents the wells to be sampled, the analysis to be performed, and the basis for their selection.

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TABLE 1
Groundwater Sampling and Analysis Program
Burgard Industrial Park

Monitoring Well	Analytes	Basis - Phase I RI Results
MW-1	VOCs	VOC concentrations greater than surface water quality criteria.
	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	Total arsenic, chromium concentrations greater than water quality criteria in nearby wells.
MW-2	VOCs	In pathway from MW-1 to Willamette River. (No VOCs were detected at concentrations greater than surface water quality criteria in MW-2 during Phase I RI sampling.)
	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	Total arsenic, chromium concentrations greater than water quality criteria.
MW-3	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	Total arsenic, chromium concentrations greater than water quality criteria.
	SVOCs	As requested by DEQ, due to low concentration of 3-4, methylphenol.
MW-4	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	Total arsenic, chromium concentrations greater than water quality criteria.
MW-5	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	Total chromium concentrations greater than water quality criteria.
MW-7	VOCs	As requested by DEQ, due to low concentrations in Phase I sample and in samples from adjacent Northwest Pipe site.
	Total and Dissolved Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Ni, Zn	As requested by DEQ, due to total arsenic and chromium concentrations greater than water quality criteria.

The groundwater samples will be collected twice per year. Once during typical high groundwater/high river levels (March) and once during typical low groundwater/low river level (September or October). The groundwater samples will be collected using the same procedures and equipment, including field parameter measurements, used during the Phase I RI. The laboratory analysis methods will be the same as for the Phase I RI.

Reporting and Assessment of Groundwater Monitoring Program

A brief letter report will be prepared after each groundwater sampling round and results are received from the analytical laboratory (i.e. twice per year). Results from the two rounds of groundwater level measurements performed in the report period will be included in the report.

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A report will be prepared after one year of groundwater monitoring presenting an assessment of the groundwater monitoring results and the appropriateness of additional groundwater monitoring. Results of the one year of groundwater monitoring will be assessed for the following:

- Groundwater flow directions and gradients consistent with the Phase I RI results.
- Contaminant concentrations in the two sampling rounds consistent with the concentrations measured in the Phase I RI.

If these two conditions are demonstrated by the one year of groundwater monitoring, the groundwater monitoring will be discontinued.

Schedule

The first round of groundwater level measurements and groundwater sampling is scheduled for March 23, 2003.

Please call if you have any questions.

SCHN00152296

BRIDGEWATER GROUP, INC.

Phase II RI Work Plan
Burgard Industrial Park

TO: Alicia Voss/DEQ

COPY: Mat Cusma/Schnitzer

FROM: Ross Rieke/Bridgewater Group

DATE: February 7, 2003

This memorandum presents the Phase II Remedial Investigation (RI) Work Plan for the Burgard Industrial Park in Portland, Oregon (Figure 1). Sampling and analysis performed for the Phase I RI noted low concentrations of volatile organic compounds (VOCs) in the shallow groundwater samples from northwest portion of the site (MW-1 and MW-2) and low concentrations of polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), petroleum hydrocarbons, and metals in a limited number of subsurface soil samples in this same area. The results of the Phase I RI are presented in a May 16, 2002, *Phase I Remedial Investigation Report*. Based on a letter dated October 17, 2002 and discussions during a meeting on November 14, 2002, the Oregon Department of Environmental Quality (DEQ) has requested that Schnitzer perform additional sampling and analysis to:

- Delineate the extent of subsurface soil with PAHs, PCBs, petroleum hydrocarbons, and metals along the river bank north and south of MW-2.
- Confirm that VOCs are not migrating through shallow groundwater to the Willamette River or the slip from the area around MW-1.

The following Phase II RI program meets these objectives.

Phase II RI Scope of Work

The Phase II RI will consist of four push probe explorations in the area around MW-1 and MW-2. The proposed locations of the four push probes are shown in Figure 2. Push probes PP-6 and PP-8 will be located north and south, respectively of MW-2 to delineate the extent of subsurface soil contamination encountered in MW-2. These push probes, as well as push probes PP-7 and PP-9 will delineate the extent of VOCs that were encountered in MW-1 and MW-2 in the Phase I RI work. The probes will be pushed to a depth of about 10 below the water table (25 to 30 feet based on the conditions encountered in the MW-1, MW-2, and PP-5).

Continuous soil samples will be collected from the push probes in 4-foot depth core intervals and logged for lithology. Headspace measurements will be performed on all soil samples and all soil samples will be observed for field evidence of contamination (odor, sheen, discoloration).

Soil samples will be collected from PP- 6 and PP-8 at depths of 6, 10, 14, 18, and 22 feet for chemical analysis. Soil sampling will be performed using the same equipment and

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procedures used for the Phase I RI work. Only soil samples collected from above the water table will be analyzed. The soil samples will be analyzed for:

- Petroleum hydrocarbons using NWTPH-HCID and follow-up gas, diesel, and oil quantification methods.
- If petroleum hydrocarbons are detected, the soil sample will also be analyzed for PAHs using EPA Method 8270 SIM.
- Arsenic, cadmium, copper, lead, and zinc.
- PCBs using EPA Method 8082.

A groundwater sample will be collected from each of the Phase II RI push probes and analyzed for VOCs using EPA Method 8260. Groundwater sampling will be performed using the same equipment and procedures used for the Phase I RI work.

Report

Once the analytical laboratory report is received from the laboratory, a brief letter report will be prepared presenting the results of the Phase II RI work. The letter report will include:

- Figure showing the location of the push probes.
- Logs for the push probe explorations showing the soil conditions encountered, including any headspace readings and field evidence of soil contamination.
- Table presenting the results of the soil and groundwater laboratory analysis.
- A copy of the analytical laboratory report.

Please call if you have any questions.

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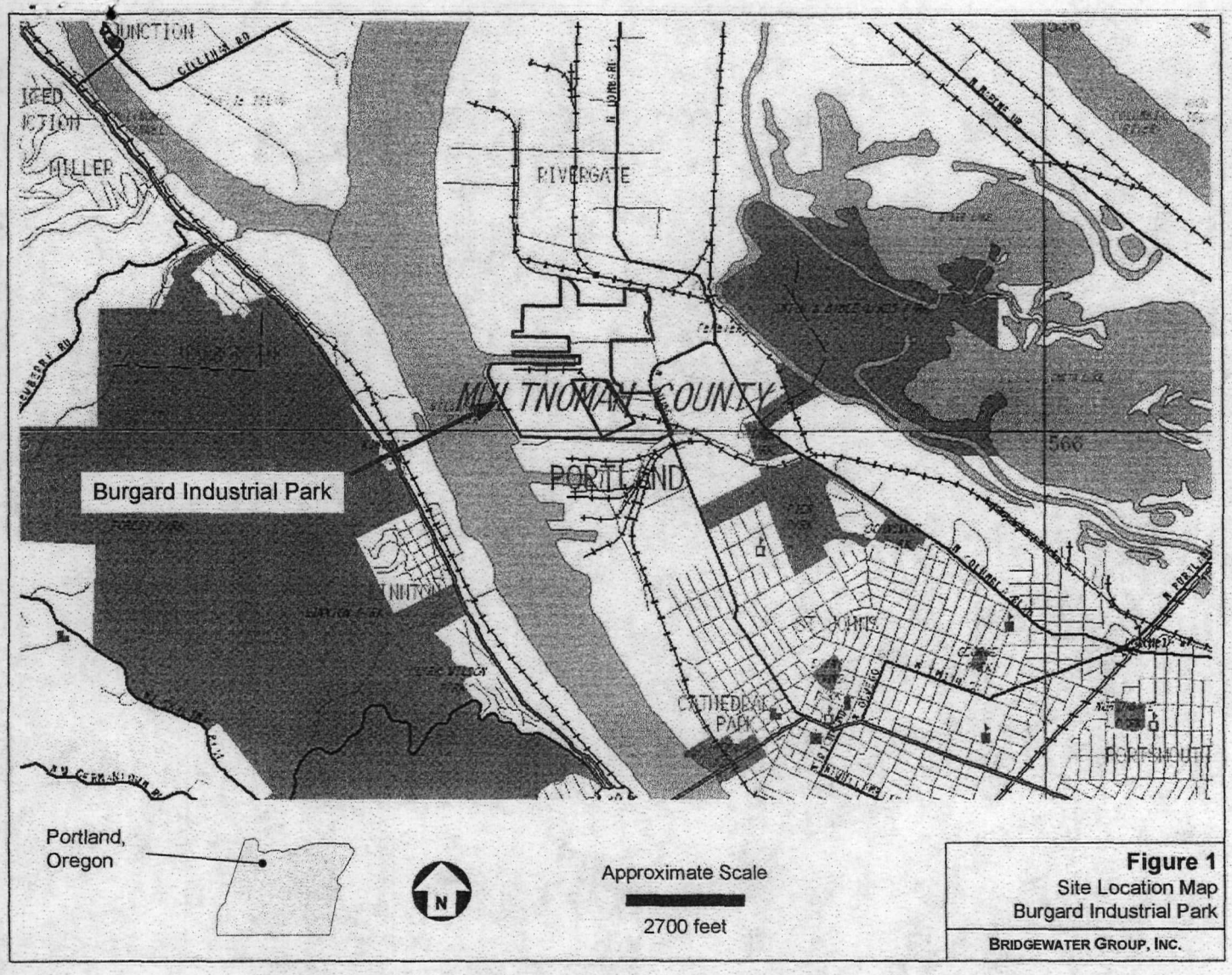

Figure 1
Site Location Map
Burgard Industrial Park

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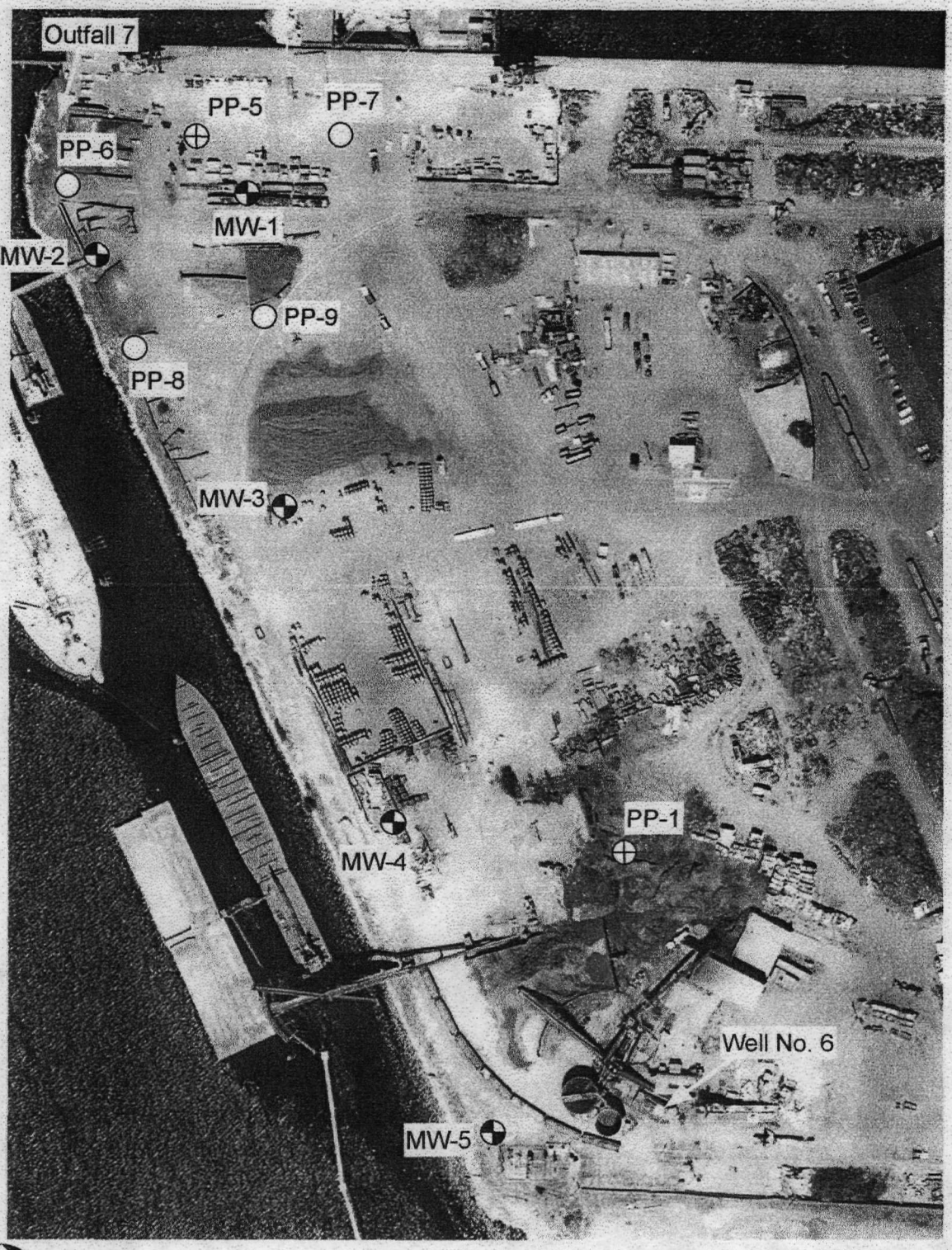

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Approximate Scale

220 feet

Monitoring Well

Push Probe

Proposed Phase II Push Probe

Figure 2
Proposed Phase II Explorations
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00152300

BRIDGEWATER GROUP, INC.

Groundwater Monitoring Plan
Burgard Industrial Park

TO: Alicia Voss/DEQ

COPY: Mat Cusma/Schnitzer

FROM: Ross Rieke/Bridgewater Group

DATE: December 20, 2002

This memorandum presents the groundwater monitoring plan for the Burgard Industrial Park in Portland, Oregon. Seven groundwater monitoring wells were installed for the Phase I Remedial Investigation (RI) at the site. Chemical analysis of groundwater samples collected in early 2002 noted concentrations of organic compounds less than surface water quality criteria and concentrations of metals similar to regional background levels. The results of the Phase I RI are presented in a May 16, 2002, *Phase I Remedial Investigation Report*. In a letter dated October 17, 2002 and during a meeting on November 14, 2002, the Oregon Department of Environmental Quality (DEQ) requested that Schnitzer perform periodic groundwater monitoring to confirm the groundwater conditions noted in the Phase I RI sampling.

The purpose of the groundwater monitoring program is to assess:

- Any seasonal trends in the relative groundwater elevations at the site and;
- Confirm the lack of concentrations of hazardous substances at concentrations greater than surface water quality criteria or regional background concentrations in wells near the Willamette River.

Following from these stated goals, the groundwater monitoring program will consist of two elements:

- Groundwater elevation measurements
- Groundwater sampling and analysis

Each of these elements is discussed below.

Groundwater Elevation Measurements

Groundwater elevations will be determined in the seven groundwater monitoring wells installed for the Phase I RI to assess any seasonal trends in the relative groundwater elevations at the site. The depth to the groundwater in the wells will be measured using an electronic meter to a precision of 0.01 foot. The groundwater depth measurements will be performed in a shortest period as practicable to reduce the potential for rapidly changing river levels to affect the relative groundwater depths between wells measured at the start of the sampling round and those measured at the end of the sampling round. The groundwater elevations will be determined based on the surveyed elevations of the wells as presented in

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the RI report. The Willamette River level in the Portland Harbor at the start and end of the sampling event will be noted from the US Army Corps of Engineers internet web site.

The groundwater elevations will be determined quarterly (every three months) starting in January 2003. This frequency will capture the typical wet weather/dry weather and high river/low river cycles.

Groundwater Sampling and Analysis

Groundwater samples will be collected from selected groundwater monitoring wells to confirm the lack of concentrations of hazardous substances at concentrations greater than surface water quality criteria or regional background concentrations in wells near the Willamette River. The specific wells that will be sampled and the analytes included in the laboratory analysis are based on the results of the RI groundwater sampling and analysis. Table 1 presents the wells to be sampled, the analysis to be performed, and the basis for their selection.

TABLE 1
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Burgard Industrial Park

Monitoring Well	Analytes	Basis - Phase I RI Results
MW-1	VOCs	VOC concentrations greater than surface water quality criteria.
	Dissolved As, Cr	Total arsenic, chromium concentrations greater than water quality criteria in nearby wells.
MW-2	VOCs	In pathway from MW-1 to Willamette River. (No VOCs were detected at concentrations greater than surface water quality criteria in MW-2 during Phase I RI sampling.)
	Dissolved As, Cr	Total arsenic, chromium concentrations greater than water quality criteria.
MW-3	Dissolved As, Cr	Total arsenic, chromium concentrations greater than water quality criteria.
MW-4	Dissolved As, Cr	Total arsenic, chromium concentrations greater than water quality criteria.
MW-5	Dissolved Cr	Total chromium concentrations greater than water quality criteria.

The groundwater samples will be collected twice per year. Once during typical high groundwater/high river levels (March or April) and once during typical low groundwater/low river level (September or October). The groundwater samples will be collected using the same procedures and equipment, including field parameter measurements, used during the Phase I RI. The laboratory analysis methods will be the same as for the Phase I RI.

Reporting and Assessment of Groundwater Monitoring Program

A brief letter report will be prepared after each groundwater sampling round and results are received from the analytical laboratory (i.e. twice per year). Results from the two rounds of

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groundwater level measurements performed in the report period will be included in the report.

A report will be prepared after one year of groundwater monitoring presenting an assessment of the groundwater monitoring results and the appropriateness of additional groundwater monitoring. Results of the one year of groundwater monitoring will be assessed for the following:

- Groundwater flow directions and gradients consistent with the Phase I RI results.
- Contaminant concentrations in the two sampling rounds consistent with the concentrations measured in the Phase I RI.

If these two conditions are demonstrated by the one year of groundwater monitoring, the groundwater monitoring will be discontinued.

Please call if you have any questions.

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